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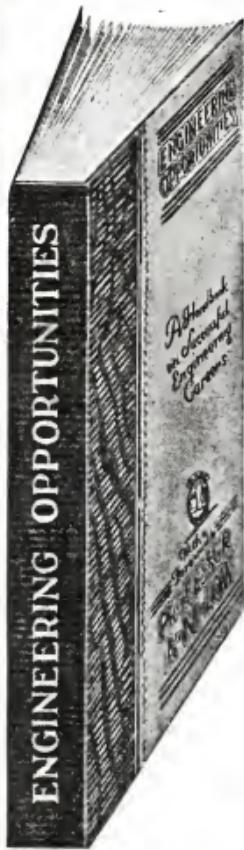
OCTOBER

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## TROG

BY MURRAY LEINSTER

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# ASTOUNDING

SCIENCE-FICTION

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OCTOBER 1944

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All stories in this magazine are fiction. No actual persons are designated either by name or character. Any similarity is coincidental.



# Trog

By Murray Leinster

The theory of a "mass consciousness" didn't set right—but somebody or something, somehow, was destroying America and the world. Industry, transport—everything falling apart—

## I.

DICK DRUMMOND regarded the New York shore with a sort of shocked incredulity as the rowboat neared it. The girl beside him touched his arm, watching the oarsman. He rowed unskillfully, this oarsman, and his face was evil. But Dick's eyes swept back and forth along the water front with staring disbelief in them. He gave no sign of having noted the touch on his elbow. At only one place along the whole Hudson shore was there a tiny plume of steam. That was where a barge lay alongside a ship sunk at its dock, salvaging cargo from the swamped vessel. The other docks were lifeless.

But not empty. One stretch three city blocks long, to be sure, was a scorched mass of ruin, with the masts of three steamers standing up above the wreckage. But the rest of the water front seemed intact as far as the docks were concerned. Yet there was no sign of life. The monster liner *Queen Caroline* lay careened, her deck-houses crushing in the roof of the wharf beside her. The rest of the wharves had sunken ships beside them. Some few had settled upright. More leaned one way or another, and several lay on their sides with no human beings anywhere about.

The rest of the city was as strangely quiet. A horse and wagon crawled along the Hudson Drive. There was smoke from the chimney of a brown-brick building at Thirtieth Street. Somewhere up where Riverside Drive began there were a few bright spots which might have been children. But the city seemed to be dead. There were three steamers—one listing badly—at anchor down in the lower harbor, and a sailing schooner came down under the George Washington Bridge. That was all the water traffic. Absolutely all.

The boatman laid aside his oars and reached deliberately into his hip pocket, as if for a plug of chewing tobacco. But his eyes betrayed him. The girl said quietly: "Trog, Dick."

Dick Drummond's hand came smoothly out of his pocket with an automatic pistol in it. It bore steadily on the oarsman.

"Hold it," he said mildly.

The man froze. His pistol was just half-way out.

"Up with the hands," said Dick, without heat, "and then turn around with your back to me. I don't like to row," he added, "so I'd rather not shoot you."

The man cramped his legs up over the thwart and turned to face the bow. He

swore sullenly. Dick reached forward and took the weapon from his pocket. He handed it to the girl.

"Happy birthday, Sally," he said. "And I can't think of a more useful present, these days."

He patted the oarsman's other pockets, tapped him for a possible shoulder holster, and settled back in the stern again.

"You can turn around now," he observed, "and take us the rest of the way. You've been making a business of this? I didn't know things were quite this bad."

The man raged. But the automatic still bore on him. He pulled on sullenly. The New York shore came slowly nearer. Dick Drummond saw a party waiting for him. There was a civilian, and two or three men in uniform. He directed the oarsman, who snarled at him. The rowboat went in past a gray-painted tramp steamer which had sunk at its berth. The harbor water just covered its deck and little waves went in and out the open doors of its deckhouses. There was a flight of wooden steps down to the water from the shore.

The oarsman backed the rowboat to the steps so his passengers could get out. But Dick shook his head.

"No. You get out first, my friend. I want to ask a few questions."

Hamilton called down:

"What's the matter? Oh!" He'd seen Dick's automatic.

There were suddenly pounding feet. Two soldiers came down the steps. The bearded boatman swore horribly.

"I think he's a trog," said Dick. "He started to pull a pistol on me out in mid-stream. Sally has it now. He's a looter, anyhow. Get out, guy!"

The boatman stood up sullenly—and dived overboard in a flash. The soldiers' rifles came up. His head appeared, but vanished again before they could fire. A soldier ran along the wooden walk overhead. The bow of the sunken ship was no more than forty feet from the rowboat.

There was a shot overhead. Then another. The soldier walked back. He had fired at something around the bow. He'd hit it.

"Got him, I see," said Dick.

He helped Sally to the steps. She was very pale. Dick fumbled at the stern seat on which they had been sitting. The middle board was loose—to make a locker for bait and fishing lines. But he looked in there and nodded.

"Loot here," he said distastefully. "You chaps will take care of it?"

He climbed the steps. A soldier made the boat fast and delved in the locker. Jewelry. Two pistols. A wallet and a fur piece and a woman's purse, and an assortment of odds and ends of value in these days. The boatman had evidently robbed other passengers whom he'd agreed to ferry to and from New York.

"So this is New York!" said Dick, when he had climbed the steps. He shook hands with Hamilton. "It's changed in the past four years. Thanks for coming to meet us."

Hamilton said nothing. His face was oddly strained. He indicated his car and wordlessly led the way to it. It was one of the last cars made, a '52 model sedan with Ganish thermobatteries and electric drive. Hamilton had changed its heat supply to use wood, coal, or anything else burnable. A little bluish vapor came from its stack. Sally was already sitting in the back seat. Hamilton had two repeating rifles stuck in the robe rack. There was one bullet hole in the windshield. Hamilton got in and the car started off.

The streets were deserted. Shop windows were smashed. Three blocks from their starting-point they passed one complete block of buildings which had been gutted by fire. In the entire journey across town they passed less than a dozen people. But when they went by what had been a small green, block-square park they saw a great shallow excavation in which nothing grew, and two men and a woman were digging there, filling buckets. Hamilton spoke for the first time.

"They're taking the topsoil," he said heavily, "and spreading it on a roof somewhere. They'll grow vegetables in it. It's safer. There's a sort of patrol of the shore, by the Army, but there's still some looting now and then."

Dick Drummond was silent. Sally closed her eyes. She was still a little pale. Most people were hardened, these past four years, to things that before would have seemed monstrous or impossible. But Sally was upset, having practically witnessed a killing.

The car went uptown and over a bridge to Brooklyn. The East River was still and silent. They saw people here and there—perhaps eight in a ten-minute ride. Then they were in a sunken drive that went on and on and on.

"This goes out to the airport," said Hamilton, unnecessarily. "The plane should get in

in a couple of hours."

Dick said rather oddly:

"I've heard about all this, you know, and there have been plenty of changes out our way, but it didn't seem really possible. Not really! I still can't believe it. I can't!"

"It's true enough," said Hamilton bitterly. "Man the Master of the Universe! Getting to the point where he was almost his own master—where he'd cease to be an animal responding to his environment and become someone who would change his environment to suit himself! We were almost at that point. But the troglodyte in us—our mass consciousness, they say—couldn't stand it. So it took charge and pulled everything down."

"I deny that I am any part troglodyte," said Dick. "My consciousness works just like it always did or worse. But— That was a trog who rowed us across the Hudson, if you will, but I don't believe he'd be able to sabotage a water-supply system. He wouldn't know how."

Hamilton said:

"Mass consciousness—"

"I know!" said Dick. "Sally's father and Blaisdell and I do para-psychological research, even in these days. I know the theory. There is a mass consciousness with which each brain has a more or less tenuous contact. It accounts for telepathy and a few other things we haven't been able to explain with our brand of screwdriver research. But I haven't quite accepted the theory that people are sick of civilization, and every so often one of them will draw from that mass consciousness the impulse and the information he needs to smash up a power plant by reversing the polarity of a key relay—much less that there's a mass consciousness for the whole human race which can't stand civilization and has cracked up and set out to destroy it."

Hamilton shrugged wearily.

"But that's what's happened."

"Blaisdell, out at the laboratory," said Dick, "is constructively insane, I think. He has a trick way of getting the right answers, after starting with deliberately false premises. He gets interesting stuff, and a surprising lot of it is true, but some of his results are quite impossible. One of them says this could happen, but I never believed that New York could be quite what it is."

"All the main power stations went out within two weeks," said Hamilton. "That was three years ago. The water supply went out within the next month. Trains ran for

a while after that, but it wasn't—nice. The Army organized evacuation after a fashion, but it was bad. Civilization's finished, Dick. Every other big city in the world has gone the same way as New York. London, Paris, Moscow, Prague— You're holding on, and there are others like you. Little tool shops and laboratories and machine shops in towns and villages. That's going on all over the world. But it's hopeless. The human race is fed up with being civilized. Its mass consciousness has revolted. This is the twilight of the race."

"Except," said Dick, "that I've never heard anybody admit that his individual consciousness was fed up. It's always everybody else's. Every man I know wants to be civilized. Even trogs like that boatman—he wants civilization to go on, because he wants to rob people of civilized things."

"Maybe individuals," said Hamilton hopelessly, "but not the mass. And the mass is so powerful that any of us can be a trog—an actual trog—without knowing it. I haven't admitted this to anybody else, but I'm afraid I may have smashed the control panel in the airport control tower. It happened two days ago. We can't get another. Factories aren't making parts."

Sally opened her eyes. She looked steadily at the back of Hamilton's head, as he drove. The car went smoothly and swiftly along the Grand Central Drive toward the airport. There was absolutely no sound except the humming of wind around the car. The electric wheel motors were noiseless, of course. The Ganish thermobatteries were silent. But much more startling than the quietness of the car was the silence of the city. Once, every city had a voice. It was a dull, rumbling note which was composed of myriads of smaller outcries, and it changed from night to day, but never ceased. New York was silent now, though—and there were a surprisingly large number of birds about.

"I'd like to hear about it, Hamilton," said Dick, reservedly. "If you'll tell me, I'd like a lot to hear. We've been working on the trog problem—who hasn't?—but nobody has ever admitted to my knowledge that he might be a trog, except obvious psychopaths who were simply lying."

Hamilton turned up a ramp. He headed for a bridge which crossed the drive and led to the entrance to the airport.

"I was in the control tower," he said in a lifeless voice, "watching a plane come in.

I remember thinking how clever the set-up was. Not a thing for the control operator to do except in an emergency. Relays and automatic controls handling everything. And then, suddenly—I hadn't the faintest sensation of a time lapse—the whole control panel was wreckage before my eyes. It was battered as if I'd been filled with a maniacal fury and had used every bit of technical knowledge I possess to smash just the irreplaceable parts. And there was a metal chair overturned by my side as if I'd dropped it when I came back to my senses. But it seemed to me as if it all happened instantaneously."

"No time lapse, eh?" said Dick, keenly. "Did anybody see you do anything suspicious? How were your hands? Tired? Splinters of glass or paint on your hands?"

"Nothing," said Hamilton bitterly. "There were thirty people who to the outside eye were just as likely as myself to have done it. I gave the alarm, as if I'd discovered it the instant I went in. I should shoot myself, I suppose."

"Don't," said Dick. "Factories aren't making small-arm ammunition any more. Hm-m-m. Will you come out to the lab and let me put you through the works? You'll be manna from Heaven if you will. I'd give an awful lot for an encephalogram of an actual trog, mass consciousness or no. But what you've said fits in in a cockeyed fashion with what Sally's father has claimed and what Blaisdell's systematic insanity gives. Will you come back with me?"

"What good will it do?"

"Lots," said Dick. "Plenty! Lord, what a mess!"

They had entered the airport inclosure. Three of the hangars were hollow, glassless shapes of scorched steel. One had collapsed completely. And there was a pile of shattered, scrapped aircraft and aircraft parts at the side of the field which should have been hidden from public view.

"Every so often something else goes," said Hamilton. "The Army's using this field now. They had trouble with their own. Trog would take explosives and use 'em on the planes. They only land planes over there now when they need explosives."

"But what—"

"No fire department any more," said Hamilton. "Fires get started sometimes, and burn and burn. I don't know why, but the Army thinks they ought to be stopped. So they bomb a fire barrier. The human race has stood civilization too long. That is ad-

mirable, maybe, trying to keep the cities intact in case we can ever move back. But civilization has been a cumulative strain. And now we're cracking up. Not as individuals, but as a mass, we've developed a colossal subconsciousness hatred of civilization. So as individuals under compulsion we smash the part we're most familiar with—or smash something anyhow. But I helped design that control panel—"

He swallowed.

"We've been too civilized and the race can't stand it. We've cracked. We'll sink back to some level of culture that we can stand. Like the Dark Ages, maybe. For nearly a thousand years the race stood still then. Maybe that's the optimum. Maybe that's the limit of civilization human beings can endure. Ants and bees have found a level of civilization that fits them. Why not human beings? We tried to go too far—"

There was silence. Dick Drummond stared around the huge airport. It had been named for a now forgotten mayor of New York, and at one time, right after World War II, it had been the center of airborne traffic for the metropolis. After jet propulsion came in, it was even overcrowded. But then planes began to land on their jets, requiring no landing run, and the number of landings went up from a bare three thousand a day in '45 to ten and fifteen. In '50 it was twenty thousand a day. Now the three in the car sat in the midst of a vast inactivity. Someone was tinkering with a refractory jet motor in a hangar not far away. Otherwise there was not a single movement of any sort in what had been the business airport of the greatest city in the world. In three-quarters of an hour not a single plane landed or took off. Nothing happened. Nothing whatever.

To two of the three, this stillness was the sort of tragedy which must crystallize into action. Dick Drummond had been living and working in a small New Jersey town, in a laboratory partly financed by himself. There had been trouble and tragedy in plenty there, when civilization seemed to crumble under its own weight and weariness. The town has been under siege for three weeks just after the evacuation of New York in '52. All the millions in the metropolitan district had to be evacuated from cities which could no longer be lighted or fed or supplied with water. After the evacuation, the looters came. They were dregs of the population of the emptied cities, who had hidden or refused to leave; who stayed be-

hind to loot abandoned homes and warehouses. When military force was used to clear the cities of them, they surged into the open country. They ravaged farms. They turned highways into ambushes. Sometimes they attacked small communities and committed monstrosities of crime in the quest for food. It took regular military operations to exterminate them. Even now the highways were not safe, and highways were almost the only aspect of civilization which did not touch off the madness of the trogs.

Dick and Sally had seen the evacuees and they had fought the looters. But it had still not been possible to imagine the world's greatest city reduced to a desert with less than the population a similar area in farmland could have maintained. There were probably not more than three thousand people still living on Manhattan Island. Dick and Sally had heard it. But until now they had not been able to believe it.

Even now, their brains would not quite believe that the same thing was true of all the world. A passion to smash civilization seemed to have swept every nation and continent. Individuals apparently went mentally blank, their twentieth-century personalities pushed aside by a troglodytic entity—the hypothetical mass consciousness—which took the normal brain's technical knowledge and used it to strike at the civilization the troglodyte could not endure. The damage was rarely impressive in quantity. Its deadliness lay in its kind. Hamilton's suspicion that he had smashed the control panel at the airport was a case in point. The relay tubes could not be replaced because the factories which should make them could not operate. They could not operate because railroads could not bring them materials or fuel, because of simple but fiendishly devised destruction in essentials to transportation. All cities were without lights or power or water or food.

Over all the world the situation was nearly the same. There were factories in New York, in Paris, in London, in Milan, which had suffered no slightest harm and were ready to the last tool to continue production. But they could not turn a wheel for lack of power, and their workmen had long fled to the countryside in hope of food. Nine-tenths of the industrial production of the United States had stopped because of the destruction of perhaps one one-hundredth of one percent of its equipment. Then the balance had stopped because nothing could be done with what was produced.

A hydroelectric plant is a small fraction of the machinery which will be made useless if it ceases to work. But a section of bus bar laid across a main power switch can burn out every operating dynamo in thirty seconds if the time is chosen just right. And it always was. A twenty-pound strip of bar copper wrecked the generators at Boulder Dam. The Tennessee Valley burned out when somebody switched conductors suddenly, and the dynamos burned each other out. The dynamos could not be repaired. All power plants were incapacitated by precisely managed destruction, seemingly carried out by madmen. City water systems ceased to function when trogs smashed their pumping systems or smashed spillway gears. What trains ran, dared only crawl because trogs had smashed too many switches and reversed too many signals. Steamers in port sank at their docks with opened kingston valves. Others—notably in Europe—simply put out to sea and ceased to exist. A British battleship of the largest class vanished in calm weather without a trace—presumably scuttled by trogs who appeared among her crew. Ore hoists in mines ceased to work. The oil fields of East Texas burned for three months straight.

Radio transmission seemed rarely affected, and few newspapers seemed to suffer. But in what was convincingly a subconscious mass hatred of the civilization that men had built up, men seemed to go out of their minds and smash the essential, the key, the cornerstone elements of everything which held man above barbarism. No single individual possessed by troglodytic frenzy had ever been seen in the act of destruction, and no single individual had ever admitted memory of the commission of a troglodytic act. It was the twilight of humanity.

In four years, the industrial areas of the world had been depopulated, its peoples decimated by famines and plagues resulting from breakdown of all transportation systems, including the air, and the world seemed plunging into a new Dark Ages. But this new one would have no such hope as the first. In this new dark age men would tremble at the thought of any renewed rise, any second renaissance, because of the end of the last. And already, all over the world, the foundries and factories and machine tools of men lay idle and useless and rusting. The mass mind of man, it was clear, was tired of civilization.

Merely to know all this was bad enough

But to see New York dead and to hear its ghastly silence was worse. Dick sat sunk in absolute stillness for twenty minutes. Hamilton seemed sunk in apathy. And Sally said thoughtfully, with somehow the effect of one coming out of a reverie:

"The thing I've never understood is that no one has ever seen a real trog at work. If you smashed the control panel, Mr. Hamilton, you didn't notice any time lapse, but it must have taken some time. You went in, and it wasn't smashed, and then it was. Then you went out and said you'd just discovered it broken up. But didn't anyone notice you'd been in there for some time? Didn't anybody else hear the crashes?"

Hamilton looked up. His expression was suddenly surprised. Then bewildered.

"Why—no!" he said blankly. "And there were men in the next room! They should have heard the noise! But they didn't! That was why nobody suspected me of doing it! Because they should have heard? What the—"

He looked bewilderedly from one to the other. Dick nodded.

"Nice, Sally!" he said approvingly. "Your father guessed at something like that. Here's a perfect case. If Hamilton is a trog, he's no mere simple psychopath! He's at least a hypnotist and possibly a magician to boot. A smart entity, this mass consciousness!"

A man came out of one of the big hangars, carrying a long pole with a flag on it. He trudged stolidly out into the very center of the field.

"What's that?" asked Dick.

"He'll flag the plane in," said Hamilton. "Like they do on liners off port—or did when liners ran." He reverted to his own affair. "But what do you think hap—"

"This will be the London plane coming in?" asked Dick.

"Yes. Only one a day, now, and sometimes not that. Professor Sears will be on it. He sent you a message—"

"Radioed. Of course," said Dick. "That's why we're here. He's Sally's father. Been over at a parapsychological conference somewhere in the Pyrenees. The best brains were invited to confer. Sears is the brains of our lab, and it's one of the few that work on parapsychology alone, which will solve the trog problem if anything will. But it's done little so far. Sears got transportation because of that, and transportation's hard to get. You saw how we crossed the Hudson! He radioed me to meet him. Something important and very urgent. I don't

know what it was. And Sally insisted on coming, too. Risky, but she would do it."

There was an infinitesimal muttering noise to the northeast. It ceased and came again, a bit louder. The stolidly marching man was very near the middle of the field. He halted and swept the flag about him to unfurl it. He made signals with it to an empty sky.

"They're using an infrared telescope," said Hamilton, abstractedly. "Stepped up. They can see him. Look here, I don't understand—"

The muttering came on swiftly. It became a roar. A plane appeared well above the horizon, seeming to melt into view in mid-air. It came on and increased enormously in size. It was huge. It was gigantic. They were the biggest things on wings, those transatlantic planes. It stretched four hundred feet from wing tip to wing tip, and its body was the size of a small ocean liner. It came roaring in, and the wheels went down, and it dipped down to make the run that the really giant planes always made on landing, because it was uneconomical to land them on their jets since airplane fuel was so scarce.

The minute figure in the center of the field made gestures with his flag. The huge plane slanted down, looking like a monstrous, abstracted insect. It passed sixty feet over the flagman's head. Its jets should cut off now.

They didn't. The tail didn't swing down with a minor sputtering of auxiliary jets. The plane didn't level out and land like thistledown.

It hit. Hard. Still tilted forward and its jets still on. Its wheel stilts folded crazily. Its body hit the ground. It split open lengthwise. Flames spouted horribly from what would have been the head. Nobody came out of the wreckage. Nobody. The man with the flag began to run absurdly toward it.

## II.

AN hour after the crash, Dick hunted up Hamilton again. Hamilton's face was gray. Dick's own expression was very curiously set.

"Well?" said Hamilton drearily. "If I hadn't smashed the control panel, the plane would have come in all right. So I'm responsible for the wreck today."

"Yes?" said Dick. His nostrils flared a little. "I'm mad, Hamilton. I'm mad all the way through! Sally's knocked out by her

father's death. It bothers me, too. I liked him. So I went to hunt up that man who flagged in the plane. I wanted to ask him if he noticed anything odd. D'you know what I found?"

Hamilton shook his head without interest.

"He was dead," said Dick, his voice shaking a little with rage. "A bullet through his head and his own pistol beside him."

Hamilton said drearily:

"I've been thinking that that's the best thing for me to do. I'm awfully tired. I'll give you that car of mine. It'll probably be useful. It ought to run for several years yet, and you can use anything in the way of fuel."

"Wait a minute!" said Dick savagely. "I made a couple of tests. That flagman's been dead two hours. Two! That means something, doesn't it?"

Hamilton looked at him vaguely.

"Two hours . . . two—No, Dick. The crash was only an hour ago. You must be mistaken, we saw him go out and flag the ship in!"

"I just had an Army doctor check it," said Dick. "The man who should have flagged the ship in was dead an hour before she was due. But somebody flagged her in! And the flag was put back by the dead man just exactly as if he'd killed himself after the wreck. Who flagged in the plane? Why didn't he report the suicide—if it was suicide? Why did he take over the dead man's job? Did . . . Something decide the plane was to be wrecked and find the right man uncontrollable. So the . . . Something had another man kill him and wreck the plane? If so—how? He was on the ground! The plane came in on manual controls! Could he make the pilot crash, as you imply you once made some people deaf?"

Hamilton looked absolutely blank. Dick paced up and down the room, his jaw set grimly. Hamilton shook his head helplessly.

"You're going to come up to our lab, so we can check you over," said Dick, firmly. "It's important. We start out with you just before dark. I've been talking to the Army. This is a curious business. I'm going to start all fresh. The mass consciousness of the human race is fed up with being civilized, we say. But my consciousness isn't. I don't know anybody whose consciousness is fed up. I don't know anybody who knows anybody who knows anybody who is awarely fed up. We seem to be deliberately committing suicide, while fighting to keep from committing suicide. The official answer is

that there's a racial psychosis, a hidden mass madness—like your smashing the control panel. But nobody heard you do it! Why? It doesn't make sense. Nothing makes sense. But if I can really get the facts on an actual trog—and that's never been done yet—"

He beat his fists together angrily. Hamilton said helplessly:

"I don't see—"

"Neither do I. But only yesterday the Army cleared a lane so you can get across the George Washington Bridge if you drive carefully. We start out in your car, you and Sally and I, and we'll find out something! I know you've got an official job here, but I'll wangle an Army request for you to come up to the lab."

Hamilton said with a wistful patience:

"Forget the job part, Dick. But I'm awfully tired. Not of being civilized, but of fighting to keep on being civilized, and then finding that I'm unconsciously a traitor to what I'm fighting for. I smashed that plane, ultimately, and I probably smashed transatlantic flying when I battered up the control panel. And I . . . I don't like it, Dick! I'm tired!"

"But I need you!" insisted Dick. "You let me fix things up and make a real test. A parapsychology test I'm figuring out now. Then shoot yourself if you like, afterward. There's one thing worse than being a trog. It's being a quitter. You'll do it?"

Hamilton shrugged.

"All right. But I'm . . . well . . . hopeless."

"Who isn't?" demanded Dick angrily. "See you later. I'll be busy until sundown. Then we start."

Dick went away. He went to the pathetic remnant of equipment which was the Army Communications system for one whole section of the Atlantic Coast, which was moreover charged with maintaining communication with Europe. The Army was no longer a military force, but it was almost everything else, including a police force for areas in which there was no law but force. The ending of the Second World War had ended huge standing armies, but it had not ended without leaving plenty of Army-trained men behind. Veterans of the last war regarded soldiers, in the current state of things, as in some sense comrades. One would take no lip from them, but knew that they were acting under orders which would ultimately make sense. Therefore a single platoon or even a squad of soldiers, landed by air anywhere that trouble started, almost

automatically became a company or even a battalion, if necessary, as war-trained men accepted its leadership and discipline. In any case, there could be no normal law-enforcement save in the very smallest cities. The Army, and only the Army, had jurisdiction everywhere.

There wasn't any Navy any more. Some of it was sunk. Much of it had been blown to bits by trogs presumably among its crews. But a great deal of it was aground or on rocks, where it stayed because there were no longer any repair facilities or means of salvage on a large scale.

The same state of affairs existed abroad. South America was not in as bad a state as the rest of the world, because it had not been so far advanced technologically. Central Africa was almost as it had been, save that the Victoria Nyanza power station was out and the Nile Barrage was wreckage. But Czecho-slovakia was a ghastly shambles of nonfunctioning factories and useless mines. Sweden was prostrate. Rebuilt Norway was in a bad condition. Germany was in fair shape, because its factories had been ripped out by the victors of World War II. There was not much left to destroy in the way of industry, in Germany. It had gone in for hydroponics in a big way, to provide food for its population. Its rulers were effusively and abjectly anxious to convince the rest of the world that it was permanently repentant, but its people were sullen and bitter. Germans no longer traveled, and Germany had become almost a hermit nation. But its forced deindustrialization had saved it much trouble now.

Russia, too, was not too bad off, save that all its industries were stopped dead. But all industry in the world was stopped. Japan was starving. China alone among great powers was hardly vulnerable to troglodytism. Its civilization was ancient and created by its own people. The ten years of industrial development following the military collapse of Japan were wiped out—or paralyzed—to be sure, but China had gone back only ten or fifteen years, while America seemed doomed to retrogress a century or more, and England could not possibly feed its population and seemed fated to slide down the ladder of civilization for three centuries, and to a population hardly a quarter of its industry-supported number.

But while the human race slid backward in exact proportion to its progress, the world's factories and mines and power

installations stood ninety-nine point nine-nine percent intact but utterly useless. Individuals acting under some compulsion which was sick of civilization had smashed the concentrated tiny remaining fraction which had made civilization possible.

At sundown Dick Drummond found Hamilton waiting drearily in his car. There were three soldiers with Dick, carrying bulky parcels. Sally was with him, too, very pale, but calm and fearless. The soldiers silently loaded their parcels in the car. Sally got in.

"Let's go," said Dick.

The car moved silently away. It swung out of the airport and a little later down into the Grand Central Drive. It came out at the now-old Triboro Bridge. There were two great piles of wreckage on the bridge, where it seemed that trogs had gone mad and smashed their own cars into others at just the moment to cause a horrible piling up of others still. There were many such piles of wreckage near the great abandoned cities. Most of them had formed themselves during the evacuations, when hordes of cars poured out all at once. So some of the pile-ups were normal accidents. But some were certainly not.

The car reached the end of the bridge, where toll booths no longer were occupied. Dick said suddenly:

"The plan's been changed, Hamilton. Turn north here. You promised to help. You can. Just obey orders and don't ask questions."

Hamilton shrugged and turned north. Dick relaxed. After a little he said, "Turn left." Later still he gave other directions.

The car came to a halt in abysmal darkness. It was on a street, and there were looted, abandoned buildings on the right. To the left there was an open space which was actually Morningside Park. It gave off the smell of green growing stuff. But nothing could be seen. There were no street lights in New York. It was now a vast jungle of stones and silence, abandoned and desolate but not yet brought down by time. Dick got out of the car and flashed a flashlight skyward in short and long flashes. He repeated the signal and waited.

A cold, cold wind blew from overhead. Dick turned on the light again. The wind grew stronger, and then seemed to move. A helicopter came down out of the blackness overhead to rest on the pavement ten yards away.

"All right," said Dick quietly. He began to shift the parcels from the back of the car. When he had finished he said, gently: "I'm sorry, Hamilton, but I've given up making sense, and this is part of the test. You go on up to the lab. It will be empty, but you know where it is. You wait inside it, out of sight, until I come for you. I'm giving you plenty of time. I'll be there by noon tomorrow or earlier. Don't ask questions now, but I've told the Army about this test and they want it made. Will you do it?"

Hamilton shrugged tiredly and then nodded. It was not pleasant for a man to believe himself a trog. Sally got into the helicopter. Dick loaded in the parcels and stepped within. The whirring sound began again and the helicopter rose swiftly into darkness.

It went up and up, and the city was black below it. No roof reflected starlight. The cañon-like streets absorbed all light. As the softly humming flying machine mounted towards the sky, the city appeared so much blacker than the rivers on either side that it gave the sensation of a monstrous, bottomless chasm beneath the helicopter.

But it drifted behind. The flier rose to five thousand feet and headed west. The earth was utterly unlighted. There were a few inhabitants on the west bank of the Hudson, and more where Newark lay abandoned by all save such resolute scavengers, but no light showed anywhere. It was not until the plane had passed quite beyond the metropolitan area that there was space enough for humans to live by agriculture. A very few lights showed in what had been relatively the wilds.

All during the night, Sally was very quiet. The helicopter had a crew of two, and Dick talked with them for a time. They were not especially imaginative. They obeyed orders, and they had been told to pick Dick and Sally up, take them home, and give them what help they could. Dick did not try to explain too much. He simply said that his laboratory had been working on the trog problem, and there was a bare possibility that something might still be done.

One of the two said meditatively that he could hardly swallow that stuff about everybody being tired of civilization. He said there was surprisingly little looting when the cities were abandoned. The looting came later. And he told of an old man

he'd found on a road, weeping bitterly beside a broken-down handcart. He'd tried to carry his most treasured possessions with him. And the possessions were books. Hundreds of them. He'd hardly taken any clothes or valuables, but he'd loaded on an impossible weight of books and there he was crying because he had to leave them after all.

The helicopter landed at the laboratory little more than an hour after taking off. Then Dick and Blaisdell worked all night long, the two fliers helping uncomprehendingly in what had to be done.

Before dawn came the laboratory was empty. Its contents were stored chaotically in a most improbable location, and Blaisdell and Dick were thoroughly tired. Then Sally appeared from nowhere with hot coffee for them and for the fliers, and a little later the helicopter took off and went spinning straight up as the first red glow appeared in the east.

Up and up and up it went, and suddenly it twinkled brightly in sunlight which would not reach the earth for some time to come. It sped away to eastward and was gone.

Dick and Sally and Blaisdell looked at each other in the gray twilight before sunrise, and filed back through the unlikely door of the laboratory's new location.

"I wonder," said Dick when they were inside, "if we'll see the sun set tonight? We're taking an awful chance, trying to trap a trog, what with the mass consciousness"—his tone was ironic—"and all. I wish there were some safe place for Sally to be sent to."

"There isn't," said Sally quietly, "and I wish you'd tell me what you're going to do."

"I raised hell today," said Dick. "And the mass consciousness that's supposed to make trogs won't like it. And you and I started out with Hamilton. Since trog-stuff has been done at the airport. I suspect the mass consciousness knows about it. So if anybody has been delegated to be a trog and stop Hamilton so I can be asked why I ask such questions, will be upset when it's found that I'm not with him. So I suspect the . . . er . . . mass consciousness will let Hamilton go and trail him."

"What hell did you raise?" asked Blaisdell.

"I pointed out," said Dick, "that a man went out to flag in the plane that Sally's father was on, and it crashed. Then he went

back to a hangar and shot himself two hours earlier. He was dead an hour before he went out to flag in the plane. So I asked why and how. Did the dead man resist becoming a trog, so he had to be killed and a trog sent out in his place? If so, how did the trog crash the plane, he being on the ground? And then I pointed out that Hamilton was in the control tower a couple of days ago when the control panel was smashed with blows of a metal chair right before his eyes, and neither he nor half a dozen clerks in the next room heard a sound, though there must have been an ungodly racket. I had the Army query abroad to find out if such oddities had been noticed there. And then I had them ask for a voice-contact for me with some one—any one—of the other men who'd attended the parapsychological conference Sally's father had gone to.

"What happened?" Blaisdell rubbed his chin reflectively.

"Nothing," said Dick. "There were thirty-six men at the conference, and they were the best brains in the world on parapsychology. And, of course, that's the only hope, so far, of solving the trog problem. I suspect that some one or more of the thirty-six had some interesting things to say about trogs. Sally's father, for instance, pointed out to us a long time ago that trogs seem not only to go mad themselves, but to be able to have some queer effect on those around them. So that conference was a pretty promising affair. But all the men who attended it are dead. In four days. Accidents on the way home from the conference."

Blaisdell started. Sally bit her lip, very white.

"Your question brought that out?" asked Blaisdell.

"Yes," said Dick. "I made a rough calculation of the odds against such a series of coincidences. It was approximately four and a half times ten to the eleventh. And then I had the Army call attention to those odds and ask for comments. Since the trog is an international problem—"

Blaisdell looked at Sally.

"I wish she were somewhere else!"

"So do I," admitted Dick. "Now you see the point in the rather insane preparations I've made. Don't you?"

Blaisdell leaned back in his chair.

"The theory of mass consciousness," he said jerkily, "is an attempt to account for a mass

purpose . . . by individuals not in conscious contact. It began in an attempt to account for telepathy, and assumed a . . . reservoir of human consciousness which some people could tap without knowing how and . . . so know things they couldn't have learned in any normal way. When this trog business began, it was extended. It was suddenly assumed that the . . . mass consciousness of humanity was able also to be more than a . . . storehouse, a passive storehouse of largely useless information. It was assumed that the . . . mass consciousness could acquire a purpose and . . . impose that purpose on individuals."

Sally said with distaste, still very white.

"That's beastly! There's no dignity left to the individual if his mind can be invaded by something blind and horrible like that! I'd rather believe in devils than in a stupid mass consciousness with a stupid rage against civilization. It sounds like the sort of race nonsense the Nazis pretended to believe."

"They did believe it," said Dick. Blaisdell went on in the same jerky fashion.

"So it's been assumed that trogs were . . . possessed by the mass consciousness and forced to do its will. And . . . Dick put on the air waves today some . . . interesting anomalies in that theory and then . . . he suggested that the mass consciousness manifests not only a purpose but a plan. In the . . . case of the men at the Pyrenees conference, a specific plan. How about notes of the conference, Dick? Did you find—"

"Missing," said Dick grimly. "In every single case. There's nobody alive to tell what the best brains in the world decided about trogs when they got together. And there's not a scrap of paper, either."

Blaisdell grinned on one side of his face. The other side remained quite sober.

"So you raised the question of . . . how remarkably this mass consciousness thinks like a . . . common criminal," he said with relish, . . . resenting prying into its nature, and killing the men who solve its operations. You'd think it would simply take over their brains and . . . stop them, wouldn't you? Oh, you've raised hell, Dick! You've raised hell!"

Sally looked from one to the other.

"You mean," she said evenly, "if the mass consciousness exists, it will set out to . . . kill Dick as it killed my father and . . . the others who gathered to co-operate in fighting it?"

"Something like that," said Dick. "If there

is a mass consciousness, I've offended it mortally."

Sally went very pale.

"Well?"

"Interesting!" said Blaisdell, still grinning on one side of his face only. "Oh, interesting! You've carried the mass consciousness idea to its . . . logical conclusion, Dick. By assigning it a specific plan . . . of murder, as it happens . . . for which there's no other explanation, you've made it into a sort of deity which controls the destinies of men. You've raised hell! Because to . . . accept that theory is to abandon every trace of belief in . . . your own importance. You're just a . . . pawn for the mass consciousness. It doesn't matter what you do. There's no such thing as . . . decency. You're not an individual at all. You're part of something bigger and stronger and subject to vast blind rages and lusts for destruction. It's magnificently logical. Beautiful!"

Sally said fiercely:

"I don't believe it! I won't! It means that . . . religion, for instance—"

"Of course it does!" said Blaisdell delightedly. "The theory is superlatively logical nonsense! So nobody will believe it, and that will . . . produce skepticism, and that will produce all sorts of things. If there were a mass consciousness it should have kept people from developing instincts which are revolted by the idea of mass consciousness. And if there isn't a mass consciousness, then trogs aren't people irresistibly forced to destroy . . . all that we and they cling to, but . . . people doing the rest of us dirt. And in that case the human race isn't . . . fed up with being civilized and decent. It isn't the twilight of the race. And Dick Drummond had better be killed, and killed fast, before he starts . . . further revelations!"

Blaisdell chuckled.

"So," said Dick, I think that Hamilton will get here, and that he'll be trailed. He'll go into the empty lab, waiting for me. I told him to. And if there's a mass consciousness one of the three of us should become a trog and kill the other two, but somehow it doesn't seem likely. I think somebody else will be a trog and follow Hamilton to kill him and at least me. But he'll want to be sure and kill me. If he doesn't see me, maybe he'll hide—"

Sally interjected swiftly:

"You forget! Nobody heard Hamilton smash the control panel, though there were men in the next room."

"I think," said Dick, "that when a trog

is in action, the people around him sort of . . . blank out. That would account for Hamilton and for that plane crash, too. Your father guessed at something like it, Sally. It would account for no trog ever having been seen in action. It fits in beautifully with the mass consciousness theory and makes us seem so much more helpless. So I brought a couple of Army photographic recorders along, and they'll start recording if we either turn them on or blank out ourselves."

"And then?"

"Maybe we'll get a picture of a trog," said Dick. "Maybe an encephalogram of somebody blanked out by a trog's activity. I don't know what we'll get, if anything. I just know, Sally, that we've got a para-psychological laboratory here, and we think there's going to be a trog around. Since I've already annoyed the great and benevolent mass consciousness, we might as well see what it's like."

An alarm buzzer sounded sharply. It was connected to a warning system about the lab. Someone was moving about the building, outside. It had been installed when looter troubles were at their worst. Dick moved to the eyepiece of a periscope and peered into it.

"Hamilton," he said softly. "The front of his car is a wreck! He ran into something." Dick watched. "He's stopping in front of the lab— He's getting out— He has a broken arm, it looks like. He smashed up on the way. And he looks like a man who's in the most completely towering rage I've ever seen. His eyes are blazing. He's practically a lunatic from fury. Now I wonder—"

He moved quickly to another eyepiece.

"Take the controls, Blaisdell! Get under the encephalograph helmet, Sally! Now if Blaisdell blanks out the recorders are bound to start." He was silent for seconds. "Hamilton's coming inside the lab. He looks surprised that it's empty and the apparatus gone, though I told him it would be. He's barging around, opening closets and things. Maybe he thinks I might have left a note for him. Perhaps I should have—"

Blaisdell held a grip switch in his left hand and rather absurdly turned the handle of a silly small device with the other. Sally seated herself in the encephalograph chair and let down the helmet over her head. The encephalograph, turned on, would make a recording of the brain waves which were

characteristic for her. Dick, still staring in the eyepiece, strapped a little clocklike device to his wrist, swiftly drew to himself a longer strap and buckled it around his chest, and then hooked his foot into a chair and drew it to him. He sat down, resting his left hand on a metal knob but never ceasing to watch.

He had a complete view of the interior of the laboratory. Where he and Sally and Blaisdell waited there was no daylight, only artificial light. This was a hiding-place prepared when looters were an ever-present menace. He could see the laboratory, though. He saw Hamilton sit grimly down on an abandoned box, with his back against the wall. Hamilton was full of a terrible cold rage.

Nothing happened. Nothing. Nothing. Blaisdell held a little grip switch in his left hand. If his fingers relaxed, it would close a circuit. It had been used in the laboratory to determine the exact instant a subject fell asleep under the influence of various somnolent or hypnotic influences. His right hand kept a small handle in constant, slow motion. It was geared to a tiny governor—a shaft with two metal balls held out from it by centrifugal force. Should Blaisdell let it stop, the balls would close a circuit.

If either of these switches closed a circuit, the recording cameras would register every sight and sound in the laboratory and around it. The encephalograph would record Sally's brain wave for comparison with normal brain wave records already on file for her in every possible mood and mental state. The various bits of apparatus on Dick's wrist and chest and under his palm would make a record of his respiration, pulse, body temperature and innumerable minor details of his physical and perhaps emotional state. But all this would only happen if a trog should appear to murder Hamilton and especially Dick.

It was very tedious. Time passed and passed. The shifted laboratory was very still. Dick peered into one eyepiece and then another. Sally lay back in the encephalograph chair with the clumsy helmet over her head. She was very pale and very weary. Her father had been killed only the day before, and she had had no sleep. But she watched Dick steadily. Her face was sad and oddly wistful. Blaisdell turned and turned and turned the handle of the centrifugal switch.

His hand stopped suddenly. He was motionless. Completely motionless. Dick looked into the eyepiece of a periscope. He

did not move a muscle. Sally remained perfectly still. There was utter silence. Utter stillness.

The silence and the stillness continued. The three in the underground room were more than motionless. They were rigid. They did not even blink. They did not look like living people, but like waxworks or something equally inanimate.

The warning buzzer sounded sharply. Someone or something else was approaching, the building.

### III.

ALL over the world, men fought the paralyzing influence, which after destroying industry had now set to work upon hope. Many millions of human beings had died, and all human beings had lost such artificial distinctions as once marked off the rich from the poor. The United States was no longer an industrial nation. It was hardly a nation at all. It had become a vast, an enormous expanse of agricultural hamlets. And all manner of primitive contrivances appeared magically. With all city populations forced out to the smaller towns and open country, there was no shelter for them or material with which to build shelters. Sod houses were revived. Americans adjusted themselves doggedly to conditions they fiercely resented. And an astonishing amount of civilization survived. Sanitation, in particular, did not go back to zero with the reversion of former apartment dwellers to sod huts. There were always some people who grimly insisted upon reasonable care for the prevention of disease, because there were so few facilities for curing it.

There were other things which also indicated that humanity was not reconciled to the abandonment of civilization. The radio chains still operated—not with the same elaboration of program, to be sure, but still covering the nation with a network of news. And newspapers thrived curiously. Not as giant organizations subsisting on advertising, to be sure. But country presses toiled unceasingly, and where they could not handle the burden, small duplicating machines from abandoned offices published small sheets of strictly local and strictly practical data on the rearguard action against barbarism. The United States might retrogress, because of trogs, but it would not go back one inch farther than it had to. And there was a surprising failure of any attempt by men who had left the cities to start to tear them down

for material to use elsewhere. It seemed as if Americans doggedly insisted upon regarding the retreat to barbarism as a temporary measure only.

In other parts of the world much the same tendencies appeared. There was a resolute and it seemed pathetic confidence that somehow the sciences which had made civilization possible would ultimately furnish a path of return. And the mass consciousness theory was listened to everywhere and then dismissed with due respect but without acceptance, because it did not fit in with what people were willing to believe.

But the battle against the trogs was actually at its height in a low-ceilinged, windowless room where Dick Drummond, and Sally, and Blaisdell sat motionless with fixed and staring eyes amid a maze of hastily shifted laboratory apparatus.

A red light suddenly glowed before Blaisdell. His hand had resumed its monotonous turning of the small centrifugal switch. Dick shifted his head to look through the eyepiece at a slightly different angle. Sally moistened her lips.

Then Blaisdell said sharply:

"The light's on!"

It went on because the centrifugal switch, having once closed a circuit, had broken it again. It told him that he had stopped his cranking, whether he was aware of it or not. He stopped a second time. He glanced at indicators. He shut off separate self-registering apparatus. And Sally looked startled at the amplifying bank of the encephalograph. Its tubes were all lighted, and there was a long, long strip of tape with neatly inscribed wave forms which, except at their very end, were not the usual form for her particular brain at all.

"What happened, Dick?" asked Blaisdell. "It looks like we blanked out, all right."

"Nothing happened," said Dick evenly. "Hamilton's still sitting where he was. Oh, yes! He's shaking his hand and swearing. He was holding a cigarette. And . . . we must have had a trog around! Hamilton blanked out as we did, and the cigarette burned up to his hand and scorched him."

He went to all the other periscopes in turn.

"There's a motorcycle leaning against Hamilton's car. Quite an ordinary one. What the devil?" He went the round of the eyepieces again and said restlessly, "Nothing else. But we were unconscious. All of us. And we had no sensation of time lapse. Not a trace. Let's see what the trog did. We know there was one around."

Blaisdell pulled on a little cord and the recorders delivered themselves from their chutes without any sound whatever.

"Hm-m-m. They were on for ten minutes and a half," said Dick. "He didn't waste much time. Apparently he didn't do anything at all. But somehow I don't trust the alleged mass consciousness to be so considerate. Not after what it's done."

He pulled out the strip of recorded film. It was Enright film, which, of course, is insensitive to light except in its own special electric field, and is developed by the light which falls on it in that field. He fed the end into a tiny projector. He pressed the button. The miniature screen lighted up and showed the inside of the emptied laboratory. There was no sound whatever. Hamilton sat at one side of the field of the camera, sitting rigidly with a thin thread of smoke rising from a cigarette in his fingers. Nothing happened for a minute or more. Then the projector reproduced faithfully the sound of footsteps. An instant later a tiny figure walked onto the screen, and there were sudden, quick, indrawn breaths from all three of those who watched. Because the figure was utterly commonplace. It was a perfectly ordinary man, dressed in perfectly ordinary clothes. He stared around the empty laboratory and scowled. He glanced at Hamilton and thereafter ignored him.

For six or seven of the ten and a half minutes of record film the man whose mere coming had made four others unconscious simply searched irritably for some reason for Hamilton driving so far from New York merely to sit on a box in a room from which apparatus of some sort had been recently removed. He looked in Hamilton's pockets for a note or memorandum, and found nothing. He stood still a moment, frowning in thought.

Then he looked up, walked across the room, and opened a closet door. He examined the interior, walked in, and pulled the door shut after him. After a brief interval, Hamilton stirred suddenly and stared down at his scorched fingers. He swore, and the sound of his swearing was dispassionately repeated by the record film.

Then the projector stopped. There was a moment's silence.

"He's a man, and he's in that closet," said Sally quietly. "Do you know, I'd thought maybe he was a Martian or something un-human, because nobody'd ever seen one?"

"Yes," said Dick. He gnawed at a finger end. "He figured out that Hamilton was

waiting for someone. Me, most likely. So he went in the closet. And he's there now. A trog, not trogging."

He looked at the others. Blaisdell rubbed his chin.

"If he gets tired of waiting, he'll come out and—it may be bad," said Blaisdell jerkily.

"That's my thought," said Dick wryly. "It's nasty, isn't it? I'm going to kill him."

"Technically it will be murder," said Blaisdell, "but I . . . was going to suggest doing . . . it myself. We've got to find out how he . . . does what he does, even if he . . . didn't do anything in particular here."

Dick opened one of the parcels he had brought on the helicopter. He was very pale. He brought out a small, short, and very unpleasant weapon.

"One thing," he said, and licked his lips, "we know he's alone. The motorcycle, for one thing, and if he'd had another trog with him he'd have gone out or called to say he was going to hide to wait for something to happen." He moved toward a door. "Listen," he said, dry-throated. "I'd feel a lot better if he had three legs, six arms, and a pair of purple feelers with eyes on the end. You wouldn't mind killing something like that. But . . . if I don't get him he'll kill Hamilton anyhow, and maybe you two. And his kind has smashed up everything we humans have been trying to build for a good many thousand years. So . . . I'm not going to be squeamish."

He went out. Sally shivered a little. The little color she'd had, now drained away. Blaisdell moved awkwardly.

"It's justified, Sally," he said jerkily.

"I'm just afraid," said Sally through stiff lips, "that Dick will get hurt."

There was dead silence. After a moment Blaisdell moved and looked through the eye-piece of a periscope.

"He hasn't stirred." He moved and peered out of another. "Dick's outside in the sunlight. He's sneaking around to the door. One lucky break, that trog in the closet can't see anything. He'll be listening, not watching."

There was silence. Blaisdell went back to the first periscope, which commanded the interior of the lab. These periscopes had originally been built in as part of the psychological apparatus, so that the subject of an experiment could be watched without being aware of the fact. Blaisdell watched, and watched. Nothing happened. His hands were clenched so tightly that the knuckles showed white.

There was a sudden muted sound which came through even to the soundproofed room to which the laboratory apparatus had been shifted. Blaisdell, at the periscope, seemed to tremble at what he saw.

"He . . . blasted the door," he said with difficulty. The jerkiness of his speech enhanced enormously with excitement:

The short, muted, infinitely savage sound came once more.

"Dick did it again. The . . . trog's bound to . . . be dead now. Sally. Hamilton jumped up. Dick's in there . . . with the tommy-gun . . . still pointing at the . . . closet door. He's . . . opened it—"

Blaisdell swallowed.

"The trog's . . . dead all right, Dick's searching him quickly. He looks sick. He's got something with wires dangling from it. He and Hamilton are getting out—"

Blaisdell straightened up. His face, or one side of it, worked nervously. Sally caught her breath.

Two minutes later Dick and Hamilton came into the room. Hamilton looked like a ghost. As he came in, he was saying:

" . . . Nothing ever startled me like that in my life! He wasn't in that closet! He wasn't! I looked—What the devil's this?"

"I told you we'd moved the lab," said Dick unsteadily. "We did. Downstairs. Last place anybody would ever expect to find it. And we were fitted up to do behaviorist observations from down here on subjects up above, and when the looters were bad we camouflaged the way down to make this cellar into a hiding-place. It was even sound-proof. So—"

Sally touched him with a shaking hand. She pressed her cheek against his shoulder and then turned away blindly.

Dick was suddenly silent. Blaisdell winced. Then he said jerkily:

"You feel queer, Hamilton? How was your trip? How'd you smash your car?"

"Smashed my car and broke my arm in a trog-contrived smash-up," said Hamilton savagely. "And I've got something to tell you—"

Sally was not in the room any more. Dick had suddenly gone out, after her. Blaisdell's face twitched, but he ignored Hamilton's announced news and talked volubly, for him, and showed Hamilton the recorder film of what had taken place in the laboratory overhead. It was the motion picture which showed that while Hamilton and the other three were blanked out a man had gone into the emptied lab, searched it angrily, and

then hidden in the closet to wait for whoever would meet Hamilton.

"And he was trog," finished Blaisdell. He grinned nervously. "He had to be. So Dick went out and—shot him."

The door opened and Dick and Sally came back. Dick's pallor had vanished remarkably. His nervousness was gone. But Sally was alternately very pale and flushed.

"Blaisdell," said Dick eagerly. "Sally and I—"

"Please!" said Sally imploringly. "Please, Dick!"

Dick stopped short. Blaisdell was silent. Dick fumbled for words and then said awkwardly:

"I see you showed him the record. Have you looked at the other data yet?"

Blaisdell shook his head. Hamilton put his sound hand to his other arm and said painfully:

"There's plenty of excitement around here, but we've got a broken arm and it's swelling. Can anything be done about it? And I've something to tell you—"

"I can set it," said Sally quickly, "if it isn't splintered. I can make you more comfortable, anyhow."

"Fine! I'll come back in a minute and thrash things out," said Hamilton.

He followed Sally out of the room. Dick said uncomfortably:

"Blaisdell, old man—"

"Forget it!" said Blaisdell jerkily. "I know! I saw it coming. And . . . you've seen my brain-wave form. I wouldn't . . . ask her to marry me anyway . . . with that. So it's all right. Forget it!"

Dick hesitated. Blaisdell sweated. Then Dick said humbly:

"Thanks." In a changed tone he added, "Let's look at the curves we made while we were blanked out. I got something from that trog—it was strapped to his skin—that may be the answer. And it scares me to death!"

Blaisdell silently clipped off the tape which carried the encephalograph record of Sally's brain waves while she was blanked out by the presence of the trog above. The last few curves, made after they had returned to consciousness and before the instrument was turned off, were a perfectly normal pattern. Sally's waking brain-wave graph was smoothly curved and beautifully regular, with precise peaks and exact troughs. It was the pattern made by a sound, good brain not quite exactly like any

other. But as Blaisdell slid the tape to look at the wave form during the blanked-out period, his eyes widened. He held it out wordlessly to Dick.

"Lord!" said Dick. "Sally didn't make those, did she? Why . . . this wave form's another one—"

Blaisdell went across the room. He pushed stray objects aside and pulled out a file drawer. He plucked out a record and brought it back.

"Looks like this one," he said briefly.

Dick tapped his fingers, frowning. He reread the case history on the back of the record.

"Chap in a trance state," he said. "His doctors didn't know whether it was epilepsy or catalepsy or what. But it was a border-state, not either one. We called it narcolepsy. Sleep-seizure, you might say. He'd go into a sort of trance. Unconscious, but not rigid. His muscles weren't tense unless you tried to change his position. Then he'd resist. But the mental state was like that of an old man's dozing, from which he woke and insisted that he hadn't been asleep or unconscious at all. D'you suppose that was what we had?"

"It fits," said Blaisdell. "Surely. Like a doze, so light that we didn't know we'd blanked out. Probably no violent changes in . . . pulse or respiration to be adjusted on waking. That's why we didn't know we'd blanked out! It fits."

Dick went to the pulse record and respiration curves he'd made of himself. They were almost completely normal, except for their unnatural regularity. While the trog had moved about, overhead, he and Sally and Blaisdell and Hamilton had been in a trance in which every physical function had been undisturbed, but with consciousness completely gone.

Dick put down the strips of paper tape and painstakingly laid out the objects he had taken from the dead man upstairs. An automatic pistol, a watch, a wallet in which every item was definitely American, a handkerchief, and just such items as might be found on any man who had not been robbed of them during the troubles after the evacuation of the cities. But there was one thing besides. That was a metal box or case with rounded edges, curved to fit the shape of a man's body. It was three inches by seven, and it had been held to the dead man's skin by adhesive tape. Thin wires came from it, to divide and subdivide almost endlessly.

Most of the finer filaments were broken off by Dick's violence in removing it, but there were small tags of metal at the ends of three of them, and these also had plainly been held in contact with the dead man's body by tape. There were two round buttons on the curved top of the box. One was pressed in. The other protruded.

"This thing must have done the trick," said Dick grimly. "We've got to find out how. I admit it scares me."

Blaisdell put out his hand.

"I'm the man," he said fiercely, "who's going to open it! I didn't . . . protest when you went out with . . . the gun. But I want to do this!"

Dick grinned wryly.

"You'll use a recorder as you open it?"

"I will. And the . . . recorder will be shooting in a mirror from behind a . . . rock," said Blaisdell. "This box will be . . . under oil. And I'll be scared green. I'll go over by that . . . white rock in the pasture lot uphill."

Dick knew the place. Perfectly. It was a mile or more from the lab, and could be watched from it. He nodded. As the thing lay on the table before him, though, he thoughtfully turned a light on it and scanned it from every direction with a recorder camera, leaving a tiny slide rule alongside for scale. He pulled out the exposed record film and put it aside.

"It's all yours. Luck!"

Blaisdell put the oddly-shaped box almost carelessly in his pocket. He picked out what he wanted. Mirrors with adjustable stands. A recorder—for both pictures and sound, of course—a large can of oil, and an assortment of small clamps. He nodded and went shambling out of the door.

Dick looked almost ashamed. When the others found him he was outside the laboratory, staring at the white rock a long way off. Blaisdell seemed to be merely putting around it.

"What's happening now?" demanded Hamilton.

"Blaisdell's opening the box that made us all blank out," said Dick harshly. "Somebody's got to do it. He insisted."

"But—why not?"

"Trots are dirty," said Dick. "They've smashed civilization. With those boxes, I suspect. And they wouldn't want us to know what is inside in case we got hold of one by accident. So I'm worried. Naturally! I'd rather have done it myself."

Blaisdell, a long distance away, lay down

on the ground. Dick ceased to speak. He watched tensely. The others stared at the tiny, puppetlike figure far away. He seemed to be motionless for a long time. Then, suddenly, there was a sharp, actinic flash and a cloud of white smoke. A sharp report came seconds later.

Dick continued to look strainedly at the distant place. Blaisdell got up, picked up his bits of apparatus, and came awkwardly back toward the laboratory.

"He didn't get hurt!" said Dick. "Thank God for that!"

"That flash—"

"That was the gadget, the case that distinguishes a trog physically from other men. It blew up. We were afraid it would. Even a trog might get killed by accident, and if somebody found a thing like that on him and opened it, he might—he just possibly might—discover what it could do. So they'd arrange that when one of them was opened by somebody who didn't know how, it would explode. We should have hunted up a specialist, I suppose."

"They arranged it?" said Hamilton angrily. "Who are 'They'?"

"The real trogs. The real, master troglo-dytic minds. We've been using the term loosely. I mean the real cavemen who really don't like civilization. Who resent civilization. Who don't want it—and won't have it!"

He went to meet Blaisdell. The two of them came back to the laboratory, talking earnestly. Dick had half the apparatus and Blaisdell explained in a labored fashion. They dived underground—and Hamilton looked up and realized that a dead man lay on the floor of the upstairs, emptied laboratory, his chest practically pulped by machine-gun bullets.

When Sally and Hamilton went down, the recorder projector had just stopped and was rewinding its film. Dick pushed the button again as it stopped re-reeling, and it projected once more just what it had shown before. Dick and Blaisdell watched absorbingly. For an instant the picture was confusing. The two new watchers were unable to see anything clearly until they realized that the recorder had been photographing a reflection in a mirror from behind a protecting mass of stone.

Blaisdell's hands showed on the screen. The curved, rounded box appeared. It fitted in a clump under a wavering surface which was obviously oil. Blaisdell worked a screw-

driver. A screw came out. He worked it again. Another. There was a long pause. Then two clamps reached in, took the loosened halves in charge, and flipped over the upper part. For the fraction of a second the interior of the box was visible, but only for the fraction of a second. Then there was a flash of light and a billowing explosion which smashed the mirror and would have smashed the camera had it been shooting directly.

The film stopped. Dick ran it carefully by hand in reverse. Three frames showed the interior of the box. Blaisdell set copy sheets against the screen, exposed half a dozen on each of the three frames, and fixed them by heat. He and Dick settled down to a careful study of the still photographs. There had been a delay of perhaps a tenth of a second between the time the box cover was removed, and the time its contents were masked by the explosion flame which destroyed them. The recorder had gotten three pictures in that interval, showing a maze of small metal parts in close-packed arrangement.

"It's going to be a job," said Dick meditatively, "but you can see what they've got. This is a battery. Here's an oscillator. It looks like this is a Krumpf-Howd inductance. And they may have figured in their capacity as between leads, but we can't see but so much. A nice job of design . . . at first glance, anyhow. It's an electronic circuit. But what do you suppose it does?"

Hamilton said abruptly:

"Before you lose yourself in that, I told you I'd something to tell you. You've killed a trog and you've found out the devil of a lot. But I've talked to one!"

Dick jerked his head up. Then he swung around in his chair. Blaisdell turned to listen. Sally's eyes opened wide.

"Pour it out," said Dick. "You—" He remembered. "Oh-h-h! On the way up, eh? You looked very angry when you went in the lab upstairs."

"And on the way up," said Blaisdell jerkily. "You . . . broke your arm. We didn't ask how. How?"

"You left me, Dick," said Hamilton savagely, "with instructions to come on up to the lab. You said it would be empty and for me to wait inside—and to look out for trouble. I was pretty desperately unhappy when you left. I thought I was a trog and the best thing for me to do was to commit suicide. I almost went back to the airport to do it. But I came on. I got to the George

Washington Bridge. It's the only way to get a car across the Hudson since the tubes are all flooded. I started across it. There was a narrow lane through the wreckage of other cars. In the middle it was fairly clear. I went up to thirty or thirty-five miles an hour. The road was clear as far as the headlight rays went. And then all of a sudden I wasn't in my car. I wasn't moving. I was in darkness. There were weights pressing me down. I hurt, horribly. I was one huge agony. Wind moaned somewhere. I couldn't see anything and I couldn't move. And then a voice said, 'Where are the others?' The pain got worse. The voice repeated, 'Where are the others? There was a man and woman with you. Where are they?' I didn't answer. I was startled and dazed and in agony. Then the pain got worse and the voice repeated the question and it got worse each time. I realized that it would keep on getting worse until I answered. So I panted that you'd gone away in a helicopter, leaving me to follow. Then the voice asked, 'Where did they go?' And the pain was so horrible that I fainted. When I came to, I'd been pulled out of the wreckage, my car was ready to back out of a heap of other smashed cars, and I had a broken arm. There was wind moaning through the cables of the bridge. I . . . backed the car out and came on."

Dick said dryly:

"I hope you guessed that you were speaking to the mass consciousness of humanity in some strange, dim-lit cosmos between this world and the next. But it should have known where we went without asking you. It slipped up. What was the voice like?"

"Detached. Uninterested. Hardly even threatening," said Hamilton, raging. "It was going to torture me until I answered, and it didn't feel anything at all. As if I were a . . . worm or an insect it was finding something out from. Coming up here, with the clues you found at the airport, I put two and two together. You'd warned me to look out for trouble. It all fitted together. I guessed that you'd known what you were doing. So I came on up. But I was raging. Oh-h-h, I was mad! And I'm not any less mad now!"

Blaisdell grinned nervously.

"Not being unsympathetic," he said jerkily, "it's . . . almost funny! You lying there in the dark, with a trog—the trog Dick killed—trying to play at ghosts-and-devils with you."

"I'm going back," said Hamilton fiercely.

"You give me copies of those photographs. You know your stuff. I know mine. Mine's engineering, and I know a trick or two. I'll be back sometime before dawn with at least a couple of those gadgets that trogs wear, and they'll be open, and you can play with them!"

"God forbid playing!" said Dick. "Better bring a couple of Army men—who aren't trogs, eh? I think we're going to have to work fast. But it looks like we've made a crack."

Hamilton went out. A moment later he put his head back in.

"By the way," he said. "I'll take that motorcycle. Use it to get back with. Make better time. And it'll go in a rowboat. I'll find one somehow. I can make a raft if I have to cross the river. I'd rather not cross the bridge again."

He grinned unmirthfully and was gone.

"I hope they've a portable X ray at the airport," said Sally thoughtfully. "That's the thing that will show up trogs. We just never happened to realize it before. Those things they have to wear will show up instantly on a fluorescent plate."

Dicked turned and stared at her.

"Do you read people's minds?" he asked mildly. "If so, please read Hamilton's and tell me if he's going to be really careful. It wouldn't do a bit of good to catch a trog if he knew you'd caught him. He'd just push a button—"

#### IV.

BEFORE noon of that same day, Dick went down to the village of East Kingston with a bundle of carbon sheets in his hand. He looked very tired, but he came away marvelously satisfied. East Kingston was very small but very densely populated. Before the evacuation of the cities it had been a quiet if not somnolent village, deriving much of its prosperity from the fact that it was far enough from the metropolitan area to furnish an almost rural background, yet was within a five-minute drive of a helicopter field and with excellent commuting service to New York. It had a certain percentage of agricultural population, a possibly larger proportion of commuters with an interest in gardening, and a small machine shop, a radio television shop, a few general stores and a chain grocery, and the customary service places.

Since the evacuation of the cities, its population had more than quadrupled. But much

of the increase consisted of relatives and friends of former inhabitants. It was still a surprisingly tight group of people with similar interests and resolutions. The siege it had endured from the looters had increased its homogeneity. Except in size, it was almost a city. Its people already had the beginning of a walled-town attitude toward the rest of the world.

But not altogether. They were a close knit defensive group, and they still remembered the rest of the world. Dick went into the town and to the headquarters of the organization which had been improvised to conduct the defense during the siege, and now held on grimly to all of civilization that could be held. There were three men in the headquarters, all working. Dick talked for ten minutes and handed over his bundle of typed and carbon sheets.

Within half an hour six boys and men had left the village. Two went by bicycle, vanishing into narrow paths through the woods. Two set off on foot. Two more took one of the town's few running cars and with rifles handy went swiftly away. Each carried copies of the sheets to other communities. When they had gone, Dick felt most of the tenseness leave him. Civilization would now come back.

The typed sheets were terse, specific statements of the essential facts that he and Blaisdell and Sally had worked out. That trogs were not otherwise innocent people, moved by the civilization-wearied mass consciousness of the race. Trogs were men who were breaking down civilization with deliberate intent. They wore, next to their skin, small, rounded metal boxes three inches by seven, with fine wires radiating out to end at tiny metal tags also next to their skin. There were two buttons on those boxes. When one button was pushed down, the trog's body became either a radiator of high-frequency waves or the center of a field of force which made every other human being in a certain area become unconscious. This could be proved because—though people who had become unconscious woke so smoothly that they were conscious of no time lapse—it was possible to prove that time had passed of which they had no memory. If the boxes were opened, even under oil, they exploded with a violent flash of bright light which suggested that the mechanism inside was made of magnesium, to burn in the explosion flame. This information must be spread in every possible way. Amateurs in electricity could try in-

duction balances to detect trogs—but if trogs had an instant's warning they could defend themselves. It was advised that if a man was suspected of being a trog that he should be knocked unconscious—not killed—and searched for the metal box which was a trog's essential protection. If such a box was found and removed, the trog would be helpless and could be questioned. He should be! The button on such a box should not be pressed, for obvious reasons. This information should be spread by every possible means.

Dick trudged back to the laboratory with weariness tugging at him. Six messengers had carried copies of that warning to other small communities. They would duplicate it and send it on, in turn. Presently some radio station would broadcast it—and maybe be destroyed immediately afterward. But that information could not now be suppressed. Slowly but surely it would travel over the whole area that had been the United States. And the United States was a nation of technically minded individuals. In its hundred and forty million people there were many millions indeed who would prefer to believe it. There were hundreds of thousands who would see a technical problem—the handling of the trogs—where before they had seen only the twilight of the race. And somebody would surely solve the problem.

There might be many people killed by trogs as they found out what had been revealed about them, but there would be many trogs killed, too! And there could never, never, never be any suppression of this knowledge if only it had a mere one or two days' start.

It was a good job, well done. Dick began to imagine the results. He'd set a trap for a trog. Other men could, too. One could set up a photocell circuit to fire a blast of machine-gun fire when a beam of light was broken—once it was realized that trogs were intruders, without supernal guidance in their destructiveness, and never normal individuals gone mad. One could arrange the flooding of a room with gas when a centrifugal switch made contact as its operator lapsed into unconsciousness. There were innumerable such devices which could be and would be contrived. And of course the actual working of the trog instrument would sooner or later be understood.

Dick felt definitely let down when he got back to the lab.

"Now, if they get us," he said, yawning,

to Sally and Blaisdell, "they'll only be fooled. Because the news is out and their game's ultimately up. Given two days, please God, no amount of slaughter could keep it from spreading everywhere. I think we deserve well of our country."

Sally smiled faintly at him.

"But having gone so far . . . as we have," said Blaisdell jerkily, "we've still no official theory of . . . what it's all about."

Dick yawned again.

"I feel all in," he said tiredly. "It'd have been a mistake to try to generalize without a sufficient body of facts. Now we know that trogs mean to smash civilization, and they've gone about it in a clever way. Maybe they represent a conspiracy to seize this sorry scheme of things entire, and then to shatter it to bits, then to remodel it nearer to their hearts' desire."

He sat down and lighted a cigarette. Sally quietly put an ashtray close at hand. Dick luxuriated in the feeling of relaxation. In thirty-some hours of tense alertness he'd absorbed the shock of seeing in reality the collapse of civilization which before had been only a narrative. He'd seen a close friend—Sally's father—killed before his eyes in the deliberately produced wreck of one of the few transatlantic planes remaining. He'd found evidence that the widely publicized explanation of the wreckage of all civilized life was a lie, and probably a deliberate one. And he'd laid a trap and it had worked and he'd actually killed a trog—which however smoothly it had happened was a hair-raising experience—and had handled a small box which probably contained the secret of the twilight of the race. And on top of that, now he'd done the one thing which would ultimately put at least the United States back on the way from barbarism.

Until the last instant the feeling of urgency had been extreme. Now he was tired out. The basement under the emptied laboratory was very quiet. The lights were not too bright. The chair was comfortable. He relaxed.

"But the question still persists," insisted Blaisdell. He sat in near-darkness on the other side of the room. "We know what the trogs do. They smash the . . . key stuff in our civilization and it can't . . . keep on. But why? What do they . . . gain by it?"

"I don't know," said Dick. "Sit near me, will you Sally? You don't talk much. It's so doggoned restful. You go ahead and talk,

though, Blaisdell. We've still got a lot to do. I'll be with you in a minute. But I want to let down a second or two. I'll be listening. I'll absorb. But I just can't do any more thinking for a while."

Sally sat on the floor, resting her back against his chair. He touched her shoulder lightly.

"What do they gain?" repeated Blaisdell jerkily from the darkness. "That's what I've been trying to work out! They're not working for themselves as . . . individuals. With the gadget they've got, they could have . . . looted incredibly. They could have stolen . . . all the money in the world. They could have done . . . anything. But instead they smash civilization! Why? If they'd been crooks they could have . . . all been millionaires! But this trog business hasn't been a . . . business of theft."

"No," agreed Dick. He closed his eyes so—he assured himself—he could listen better. "There was no epidemic of robberies before the trog business began. That wasn't it—"

"They're working for a . . . common purpose," said Blaisdell. "And it's not easy to think of a common purpose that would . . . make men pull down all of civilization. There needn't have been . . . so many of them, at that. A few hundred in all of America . . . able to destroy with impunity as they have, could do . . . very nearly all they've done. But it's . . . all over the world, too. Everywhere! There must be . . . thousands of them altogether. What are they working for? Why are they . . . destroying?"

Dick roused himself a little.

"They're trogs," he said drowsily. "They hate what the rest of us prefer. Decency and comfort and safety, and just being able to get along with other people—"

There was a pause. Then Blaisdell's voice changed a little. It sounded somehow startled.

"You said something then. Look at what they persuaded the rest of us to think! Mass consciousness. A sort of deity, only without benevolence . . . demanding everything and giving nothing, not even comfort . . . stripping every man of belief in his own importance . . . doesn't matter what you do, it's neither good nor bad . . . no good except what the mass consciousness of the human race commands . . . follow—instincts . . . no such thing as decency . . . part of . . . bigger than you are . . . you're a mote, an atom . . . can only submit—"

Dick heard no more. He was asleep in the comfortable chair. After a moment or two Sally said softly:

"Sh-h-h-h! He's tired out. He needs rest." Then she added conscientiously: "You do, too. Why don't you lie down and rest a while? I'm not a bit tired. I'll look out for things."

Blaisdell sat quite still for an instant. Then he got up with the effect of unjointing himself. He started to speak and stopped. Then he said very quietly:

"That's a very good idea, Sally."

He went out. Sally did not watch him go. She was looking at Dick. So she did not see that his face twitched mirthlessly as the light from outside touched it.

Dick woke again very gradually. There were fewer lights turned on. The room was underground and there was absolute quiet. And there was a warm pressure against him. He looked down. Sally sat on the floor, asleep. She had been leaning against his chair. As she slipped off into slumber, she had laid her head upon his knee. And she had a revolver in her lap, with her fingers all relaxed around its butt.

"My God!" said Dick humbly.

Sally waked as he kissed her gently.

"Little idiot!" said Dick gently. "I'm not altogether a child. I shouldn't have dozed off like that, but I didn't need to be watched over, certainly. And did you expect to defend me with that pistol if a trog came?"

She flushed and stammered. He kissed her again. But it was notable that she felt no great discomfort in having made herself ridiculous, since it seemed to have pleased him.

"I wonder what time it is?" asked Dick after a little. "And where's Blaisdell?"

They found him in an adjoining cubby-hole with waste paper crumpled in a pile beside him. He was red-eyed and worn out, and his face was whitened by strain. But he was triumphant.

"Look at that!" he said fiercely. "I worked both ends against the middle all the way, but look at that!"

Dick picked up the sheet before him and began to study the intricate circuit diagram. He frowned in concentration.

"There's an arc to make the oscillations," he said surprisedly, "and . . . what the devil—"

Blaisdell pulled it quickly away.

"Hold it. That's . . . not finished. That's a circuit I was working on. Here's the one of

their gadget. Look, Dick! We knew what they were trying to do. They wanted to . . . affect brain waves. So just . . . make the guess that they do it directly instead of indirectly as it's . . . always been done before! I tried to . . . work out their layout from that angle. It gave a . . . clue at the beginning, a wave length to figure from . . . one-point sixty-seven centimeters. That'd be a resonance frequency for those Paulson neurone molecules, remember? The . . . ones in our brains that break down with mental activity and . . . reconstitute themselves with rest? See it?"

Dick started all over again on the second diagram. It was simpler than the first.

"Figure it out," said Blaisdell jerkily. "Normal breakdown of Paulson molecules . . . following a regular sequence . . . makes the energy for consciousness. Breaking down they . . . have a by-product of electricity which we pick up and amplify and call brain waves. We make encephalograph records of them. Normal waves have . . . normal pattern. There are . . . pattern changes for sleep . . . mental effort, and so on. During mental effort there are more breakdowns . . . more energy used. See?"

"Part of it," said Dick, absorbedly. "There are two circuits here, though, linked together. This one on the right is standard radio-frequency and it's modulated by—"

"Coming to that," said Blaisdell, grinning crookedly. "The left-hand circuit generates one-point-sixty-seven waves, Paulson molecules absorb them and break down faster or slower as they're stronger or weaker. This dinkus is a modulator that makes 'em stronger or weaker in the pattern of those waves Sally recorded when she was blanked out by the trog upstairs. So when this generator is working, the Paulson molecules in our brains follow that pattern and we have those brain waves, and we blank out."

"Say it again," commanded Sally. "And slowly."

"This generates waves that control Paulson molecules in our brains. Paulson molecules make brain waves. So this circuit controls our brain waves, and therefore whether we're awake, asleep, alert, or—having fits."

"He means you can force an oscillator," said Dick, "and our brain is one. So you can make it do tricks. Pretty! But look here! Micro waves like that would blank out everybody all around! Everybody! Including the man who carried it!"

"Circuit on the right," said Blaisdell. "It's standard radio-frequency using the man's body to radiate it. High-frequency waves don't go into the middle of the antenna that's radiating them. There's a skin-effect and they all stay on the surface. But those waves wouldn't do anything. So they're modulated. In radio, you modulate a fifty-megacycle wave with two-kilocycle voice frequencies. Don't you? But suppose you modulated a . . . two kilocycle wave with fifty-megacycle frequency? What sort of . . . wave would you have?"

"But it's imposs— Holy mudcats!" said Dick, awed. "You wouldn't get sine waves! You'd get corrugated ones! They look like a piece of spiral spring pulled out and bent into sine-wave form! There'd be all those little bends in them besides the sine-wave curve!"

"That's the point," said Blaisdell. He grinned crookedly. "The short stuff shot into a trog's body would go right in and blank him out. But short modulation of a normal high-frequency wave would stay on his outside—and radiate. And it wouldn't be . . . microwave stuff until it hit us. Then—out!"

Dick sat down suddenly, as if his knees had given way beneath him. But his eyes were shining.

"And of course," he said joyously, "a wave form always tends to smooth out, so those corrugations wouldn't stay put! They'd all die out. So the range of the thing is limited. Very limited! Blaisdell, it's beautiful!"

Sally said:

"I wouldn't call it beautiful. Look what it's done!"

Dick looked at her blankly. Then he grinned.

Blaisdell made a diagram of his own. Let's see what it is."

But Blaisdell crumpled the diagram and put it in his pocket.

"Let's let it go for a while," he said in sudden harshness. "I don't want to think about that right now. It's bad stuff. I'd rather nobody ever thought of it. But if we have to—"

Dick hesitated. Sally put her hand on his arm.

"He's right," she said suddenly. "Let him think it over."

Dick hesitated a moment more, and then nodded slowly.

"I see— Death rays would be bad—" Then he shrugged. "I've got something to

work on anyhow, though. You'd better get your share of sleep. You need it more than I did."

"Sure," said Blaisdell. He grinned mirthlessly. "I mustn't crack up, eh? I might turn into a trog!"

But he smoothed out his own diagram and put it carefully in his pocket again. He stood up.

"There's one good thing," he said jerkily. "If a man . . . works long enough he can get sleepy enough to . . . sleep and forget he's a . . . man."

He went shambling off to his sleeping quarters. Sally looked after him with a troubled expression.

"It's pretty terrible, Dick."

"He's in love with you," said Dick.

She nodded.

"It wasn't so bad before I . . . we—" She looked up at him appealingly. Dick kissed her. Presently he frowned and then gloomily went back into the transplanted laboratory. Sally followed him.

"Keep away from me!" said Dick. "I'm in love with you, too, and there are trogs in this world and we've no defense against them. With what Blaisdell just worked out, I'm going to make one. But if you touch me I'll kiss you, and I need first to make you safe. So keep away from me!"

He sat down at the worktable in the larger underground room. He began to sketch out an electronic circuit. Any man who could design and if necessary build an encephalograph or the other infinitely delicate apparatus of a modern parapsychological laboratory would naturally be able to design simpler things. Dick scribbled the outline of the circuit, talking as he worked.

"Blaisdell's a genius," he said shortly, "and like all geniuses he's bound to be unhappy. But I wish he didn't have those freak brain waves. Nothing's showed up in him. It might show up if he had kids. But it might be worth the gamble for . . . well . . . the world at large."

He used a slide rule and then threw it impatiently aside.

"All I've got to do is throw together a high-frequency relay with one automatic control. I'll take things apart and stick it together anyhow."

"What will it do?" asked Sally.

"Smash trogs," said Dick, briefly.

He regarded his diagram meditatively for an instant, and then changed it here and there.

"I'll take the amplifying bank out of the

encephalograph," he said abstractedly, "and hook it onto that big power tube. Then that control—" He got up restlessly, heaved the hastily-piled apparatus from upstairs around, and came back to the workbench with two or three complete items and half a dozen parts. He set to work with a screwdriver and pliers. "This is strictly cobbling, but if Blaisdell is right, trogs radiate a carrier wave besides that short stuff. I'm making a straight amplifying relay with automatic frequency control. It ought to pick up any carrier wave that comes around, step it up a few hundred thousand times, and spit it back. I've got a sealed-cascade tube that'll handle ten kilowatts of power. Which ought to be plenty!"

Sally frowned in concentration.

"Don't frown," said Dick. "I'll show you in a minute."

He worked busily. But it was not one minute, but nearer twenty, before he stood back from a hopelessly untidy assemblage of assorted parts. He made careful cryptic tests with an ammeter and a tiny oscillator, separately connected. Then he said:

"Now we'll see what happens. This little oscillator is sending out radio waves I haven't bothered to measure. This impressive assembly of junk is supposed to pick up anything like a radio wave—any wave length at all—and step it up and give it the heave-ho right back. And any circuit which will radiate a given wave length will also absorb that wave length. Hold your hat!"

He stood back and threw a switch. For an instant nothing happened. The tubes in the junk-assembly were warming up. Then the other, the little circuit, suddenly glowed white-hot throughout its length, arced, and collapsed into smoking, molten ruin.

Dick breathed a sigh of relief.

"We'll leave the thing on," he said. "And if that trog gadget sends out a carrier wave as Blaisdell says and I believe, and if a trog comes within whatever range this dinkus has, and if he turns on his little gadget to come in here and annoy you, Sally—why I think he'll be sorry. So I think I can take time out to kiss you."

## V.

HAMILTON arrived some hours after sundown, in an Army helicopter. It was one of the larger type, used for freight. The Army was depending heavily on helicopters for its civilian patrol work. Airfields simply

weren't any good, these days. They had no repair facilities, they were jungles of weeds, and there wasn't a radio beacon still in operation in the United States, except the one shooting out from a New York airport for the transatlantic places which now would not come any more. The great vertical air-screws of the helicopter made almost a drumming note as it settled beside the laboratory.

"You're to come back to New York with me," said Hamilton abruptly. "Those questions you asked yesterday . . . no, day before yesterday . . . have started things going. And we've done our share, too! Here!"

He was down in the underground room, with its spotty improvised lighting making it look particularly uncivilized. Two of the four-man crew of this larger helicopter had come down with him. They grinned suppressed grins as Hamilton rather dramatically tossed out two small, rounded metal boxes, three inches by seven, now wrapped round and round with bundles of branching metal filaments.

"A couple of trog gadgets," said Hamilton. "And you can open them up and play with them! They're harmless now, and they won't explode!"

He waited for expressions of amazement. Dick said with polite enthusiasm:

"That's swell, Hamilton! Swell!"

Blaisdell was unimpressed. He picked up one of the two objects, unwrapped the cable, and flicked it open. He looked inside, poking informedly with his finger.

Hamilton blinked, a trifle dashed by the relative failure of his sensation.

"How'd you get 'em?" asked Dick. "It was nice work."

"Why," said Hamilton, "the Army had to use the civilian airport because trogs kept setting off bombs to shatter planes at the regular army airfield. So they knew there were trogs there. And they announced danger of an epidemic and had everybody on the army field file through the infirmary for a check-up. It's happened before. But this time they had an X-ray machine behind a partition and as the men moved along the line they got X-rayed without knowing it. Only three of us knew, and we spotted five trogs by the shadow of these boxes, and of course the network of wires they have to wear. When the men got to the place where they went one by one into the examination room, those trogs were knocked cold as they stepped inside. We stripped their gadgets off, tied them up and gagged

them, and hid 'em away. Then we rushed the gadgets to separate places."

Dick grinned.

"Have the trogs talked?"

"Not yet."

"Hm-m-m," said Dick. "And how'd you get the boxes open?"

Hamilton seemed to expand a little.

"Why—we put them in a vacuum chamber and pumped out all the air. Then we dumped 'em in oil and let the air pressure back. That forced oil into every possible crevice inside. Then we froze the oil solid. No striker-pin could move to detonate anything. Then—we opened 'em and took out the explosives." He said anxiously, "There's a complicated circuit in there. We've got a couple of our best men—not in New York—unraveling it. Meanwhile we snipped the battery leads so these couldn't possibly turn on. All right? I begged these for you chaps to look at."

Blaisdell seemed to have finished his inspection.

"Pretty good," he said grudgingly. "But only pretty good." To Dick he said disparagingly: "I gave 'em . . . too much credit. I thought they'd do their . . . capacity stuff for the . . . short waves with their leads. But look at this! They had to correct for lead capacity and then get . . . practically the same capacity back with this dinkus our picture didn't show! Sloppy stuff!" He growled to Hamilton. "I'm going to . . . tinker with this a minute. Make it into . . . something Dick worked out this afternoon."

He went over to the workbench. Hamilton looked unhappy.

"Is it—safe?"

Sally said proudly:

"He and Dick know everything about the trog gadgets!"

Hamilton uneasily dismissed the question.

"Now—how about coming back to New York with me? A plane came in from Europe three hours ago. Three European governments have sent men over to talk to you, because of those questions you asked yesterday. With everybody at the Pyrenees conference killed, those questions make you rate pretty high."

Dick said over his shoulder:

"Blaisdell, what say?"

"Safe enough, with that relay of yours working," grunted Blaisdell. "Give me an hour, first. Then we'll—be sure."

He settled down to work with minute tools—an almost microscopic soldering

iron; pliers with reduction levers operating their jaws so that infinitely tiny wires could be handled and bent for the most precise of miniature circuits.

Sally cooked a dinner for Hamilton and the four men of the helicopter's crew. Hamilton took the four of them to see the empty laboratory by flashlight, and in spite of the darkness essayed to dramatize how he had sat frozen while the first known trog ever to be killed walked into a trap. There was a strictly informal burial of that trog. Dick and Blaisdell simply hadn't gotten around to the chore. The five men who had come from New York found themselves completely unaffected. Those who now believed that civilization had not collapsed from a natural cause—a mass neurosis—but had been destroyed of deliberate intent—such men were not apt to be affected by the sight of a dead trog. They were filled with a cold hatred so deep that it hardly showed in their manner.

Afterward they loaded such apparatus as Dick pointed out into the helicopter. The junk-assembled relay he had contrived. The Ganish thermobatteries which powered the laboratory. This, that, and the other thing.

Blaisdell came out with the trog gadget, stripped of all but a single external wire. He handed it to Sally.

"Strap this around your waist under your jacket," he said curtly. "Then—put on this bracelet. It's wired to the set and—there's a sponge that'll stay wet."

Dick said: "Something?"

"Same thing as the big one. Automatic relay. Set to the trog carrier wave. If a trog tries his stuff, this'll neutralize it. 'Fraid it won't burn his set out, but his tubes won't work, anyhow. All right? When you get it on, Sally, push that button and start it. It'll make a noise, by the way, if it's called on to do anything. I put in a vibrator."

"Are you ready to go?" asked Hamilton.

"Sure!" said Blaisdell. "Now that Sally's safe."

The helicopter took off. Darkness spread out below them. In near-silence the big craft drifted smoothly to the east. There were stars overhead, filling the sky with brilliant points of light. But the earth below was seemingly lifeless. At ten thousand feet they could see exactly two tiny specks of yellow flame—lighted windows.

"About those men from abroad," said Hamilton. "There's one from Rumania, who

was assistant to one of the men at the conference. He lost no time getting over here. There's an old fellow from Germany who didn't go, and there's an Englishman. It turns out that every one of them had suspicions. They'd accepted the mass consciousness theory because there wasn't any better one. The old chap from Germany still thinks there may be something in it. Pretty old, though. He says he studied under Sigmund Freud! When we told them what we'd taken from those five trogs they itched to examine them, but the Army was working on three and I'd insisted you should have the other two. Since you seem to have gone farther than anybody else."

"Thanks," said Dick, abstractedly.

Sally said in a slightly strained voice:

"I think it's very lucky. Very lucky! I think you did the marvelously right thing, Mr. Hamilton."

Dick jerked his head around to stare at her in the darkness of the helicopter's cabin.

"Just what do you mean by that, Sally?"

"I've been making—generalizations," said Sally uncomfortably. "You said we ought to wait until we had more facts. But we've got a lot of them now. Troggs aren't a symptom of mass-weariness of civilization. They aren't people who're working for themselves, because they didn't steal conspicuously, and they were working under direction. Somebody certainly arranged . . . my father's death, with that of every other man at the conference. Somebody directed the destruction of civilization. Somebody—most likely—even directed the spread of that mass-consciousness theory. It was the one thing which would take the heart out of everybody who believed it. They thought that in trying to save civilization they were fighting themselves. Now we know it isn't so. We know somebody—some group of people—is deliberately trying to smash civilization. And I think we ought to try to guess who."

"Some—group of people," said Dick. He drew a quick breath. "You've got it, haven't you, Blaisdell?"

"I think so," said Blaisdell. His voice was muffled. "And—if we need it I've got that diagram with me."

There was silence for a moment. Dick marshaled his facts deliberately. Below the helicopter the sprawling edges of what had been the world's metropolis lay dead. All over the earth just such cities lay in just such abandonment. Their streets were emptied. Their buildings began to show

neglect. People could not live in them any longer, save in smaller numbers than the same area of waste land would have supported. Birds had moved in, to be sure. The deserted cities were sanctuaries for birds. And other wild things were moving in, too. Little rodents, and foxes which preyed upon them. Rabbits and moles and owls and ferrets found the cities of men far safer hiding-places than the woods and fields. Men were too common there, now! Dead cities could become the wilderness in which wild things lived.

"It all fits together," said Dick in an emotionless voice. "I almost hate to say it, because maybe it's worse than the theory we were told was true. It's bad enough to think that civilized men could smash their own culture because they were tired of being decent and comfortable and free. Civilized men are more free than barbarians can ever be! But we were heading toward barbarism, and we were accepting an explanation that was the absolute peak of pessimism. We weren't individuals, this explanation said, but part of a mass. What we wanted, as individuals, didn't count, nor what we did. The mass was everything. We weren't separate people. We were members of that mass and that mass had become—as Blaisdell said—a sort of deity which took everything and gave nothing, not even consolation. It was neither good nor bad. There was no such thing as right or wrong, except as the mass determined it. There was only this mass which was all of us, arbitrary and in the last analysis sick, which had developed a savage hatred of all that we consciously desired and believed in, and . . . we were motes, impotent atoms, who had willy-nilly to submit—" He stopped and said shortly: "Very familiar doctrine, when you substitute another word for mass."

Hamilton started.

"Race! The racial theory in another—"

Dick wet his lips.

"The trog masters, the men who set other men to pull down civilization—they set that doctrine afloat. Not too difficult, at that. Psychology was always a specialty in their society. They used it—more than any other people. They tried to fight wars with it. Twice, that some people now alive can remember. Both times they were defeated by another specialty. Technology. Industry. Both times they collided with us, with the United States. We had the greatest industrial machine in the world, and the best technologists. We didn't have huge armies,

and we were pretty bad with psychology—though it was an American named Rhine who founded parapsychology as a science—but we could make things. We preferred to make electric refrigerators and automobiles that everybody could own—and we did. But we could make guns and war planes, too, if we had to. We could make more of them, and better, and we could use them better too, because they were technical devices, and that was our specialty! We beat the trog masters with our technology and our industry. Twice. The last time we smashed their industry so they couldn't make any weapons at all. We thought we'd crushed them forever."

Sally said confidently:

"We'll do it again, Dick. We will!"

Dick laughed; a rather ugly laugh.

"It's already done. They went underground, those trogs who hated civilization and freedom, and wanted barbarism and slavery for all the world. For ten years they worked in secret. They wanted to fight again. They don't like civilization. They hate it. They won't have it! But when they fought before, we beat them with our industries. So this time they planned to fight a war in which industry or technology wouldn't count. In which weapons would do no good, and machines would be useless. Some one of them got hold of the fact that certain wave lengths—one point sixty-seven centimeters—would have phychological effects. Psychology was their specialty. They set to work to smash civilization with a psychological weapon. And they overlooked just one thing!"

Hamilton said, his voice purring with hatred:

"When they said they had smashups there, it was a lie! They faked them! Nothing's happened to them! It's the rest of the world that has gone downhill!"

"Just so," said Dick dispassionately. "They faked their alleged catastrophes. For nearly four years, now, the rest of the world has been crumbling. We've had no industrial production at all for two years, and practically none for three. Transportation is just about stopped, even by air. So the trogs have had three years in which the rest of us believed all the world was breaking up. They had it as a breathing-space in which to make a new industrial machine and turn it to the making . . . guns and such. We're smashed. We're shattered. We're disarmed and our industries and transportation

stopped dead. Our cities are empty and our factories useless, and the same human devils who brought it about are among us right now to slap down every attempt we make to get anything working again! While they . . . well, now they ought to be about ready to take over their victory."

Blaisdell said in a muffled voice:

"They've got to move at once, Dick. You asked questions, and they can't have questions asked. Sally's father and the others must have had some good questions to ask—and so they were killed. We . . . may be going into something pretty hellish right now. They've got to stop questions!"

"But they can't," said Dick. "I know! They may get us as individuals, but they've lost because they've forgotten something. They haven't realized that they'll run up against exactly the same thing again! Our industry and our technology!"

Blaisdell chuckled. Hamilton stammered.

"Handling one-point-sixty-seven waves," said Dick with a faint, hard grin, "is a technical problem. We've got hundreds of thousands of people able to work on it—and they'll work! Making the apparatus to handle it is an industrial problem, and there are thousands upon thousands of little radio-television shops that will sweat it out in the back workroom, not to mention the amateurs, the hams, the home-workshop addicts in small towns and villages who could always turn out trick televisions and the erratic supersensitive outfits that were too tricky to be commercially practical. We've got the technologists and the industrial capacity, all right, to handle the technical devices the trogs have tried to fight a psychological war with!"

A pause. Then Sally said, in blindly confident concern:

"But Dick—what can we do with them after we've won? They were Prussians a hundred years ago, and they were unbearable when they won in 1870. They were Germans in 1914 and were beastly until they lost. Then they turned Nazi and acted like madmen until we smashed them. Now they're trogs! They're the same creatures, the same minds, the same . . . enemies of the rest of mankind that they've always been! What can we do with them?"

Blaisdell said with another chuckle, there in the dark cabin of the helicopter:

"No postwar plans, yet, Sally! Not yet! This is strictly an undeclared war, and we haven't started to fight yet! I've got a hunch that the trog leaders already know that if

they don't take over their victory in the next day or two they'll never have it."

Hamilton said blunderingly:

"Look here! You mean . . . you mean—"

"Listen!" said Blaisdell jerkily. "The last two times we've licked them. We, the United States. Other nations had manpower and courage and everything that we take off our hats to, but it was our industry that was decisive. This time they've . . . got the world if they can . . . occupy the United States . . . restore the trivial things that . . . smashed us up, and hold us Americans as slaves. They need England too, of course. They'll take Czechoslovakia again. Maybe they already have! They may have had the Czechs slaving for them for months or years back! We wouldn't know! But they've got to take us! They've got to! And this time they'll—hit us first! And I gave 'em less than thirty-six hours to have a chance to win. Even then—"

He was abruptly silent. The plane began its smooth, purring descent. It went down and down and down. Hamilton said in a strangled voice:

"There was a plane out over the North Atlantic. It . . . suddenly opened up on commercial frequency and said it sighted ships below. Hundreds of ships, all steaming west. Then, all of a sudden, the man who was talking screamed. And then we couldn't raise him any more. We thought . . . we thought it was a hoax. Some people play jokes even now."

Dick said evenly:

"You'd better play with that circuit of yours, eh, Blaisdell?"

The helicopter landed. Army officers met them.

"Something's happening," said a voice in Dick's ear. "In the past hour, radio stations that have been going right along have been dropping off the air. All over the country. Just cutting off without warning."

"One can make guesses," said Dick bitterly. "Radio was good stuff as long as it spread hopelessness. But if there's something going to turn up to make people mad, better no radio."

He realized that the phrase was cryptic, but it would take too long to explain. It fitted into the pattern, though. With all radio transmitters out, news of an invasion could not travel even as fast as the invasion army itself. There could be no concerted defense at all. The country was helpless.

Dick took Sally's arm and went with her

through the blackness. They went into what had been the reception center at the airport. It was brightly lighted, but the upholstery was faded and in places tattered. The room needed dusting. It was somehow an expression of hopelessness.

There were half a dozen others waiting. Two Army medical-corps men, psychiatric branch. Three men who were obviously foreigners. A high-ranking Army officer who listened in a frowning attempt to understand the technicalities of psychology and parapsychology in the talk. It stopped as the party entered. Hamilton moved forward.

"Ah!" he said in a queer tone. "Here we are! M. Gigskin, of Rumania, Herr Glaunfeldt, of Germany, and Mr. White-Barrett, from London. Let me present Miss Sears, Mr. Drummond, and Mr. Blaisdell."

The tableau was curious. The Rumanian was small and dark and intense. The German was portly and bearded and elderly. The Englishman was lean. He smiled hopefully. Dick and Blaisdell were not at all dressed up, and there were work stains on Blaisdell's hands. Sally looked very tired.

"Ach," said the portly German. "They are so young to have found out so much! The science of parapsychology will be indebted to you, *Herr Drummond*." He asked inquiringly of Hamilton, "And these are all? Did you not say the entire laboratory staff would come here to work upon this problem with the superior facilities?"

Hamilton nodded, unsmiling.

"They are the laboratory staff, *Herr Glaunfeldt*."

The German looked around, beaming.

"Think!" he said. "In this room is gathered the hope of civilization! Every man who has genuine hopes of solving the decay of humanity is here!"

He put his hand to his waist. Dick made a sudden, startled movement. Then he grinned savagely. He was in the middle of a raging leap when a sharp buzzing note came from under Sally's short coat. Dick landed. He struck ruthlessly; brutally. The German, taken utterly by surprise, collapsed with an expression of stupefied amazement on his face.

Dick pulled savagely at him. His beard came off. His hair was a wig. Dick went grimly to work, digging through layers of padding to get at the man's skin. He found something, and dragged it furiously away. It was a rounded metal case, three inches by seven, with trailing filaments of wire

sprouting from it. There were two buttons at its top. He pressed one of them.

The sharp, buzzing note from under Sally's coat stopped abruptly.

Dick said calmly in the dazed silence that followed:

"They must think we're in very bad shape, Blaisdell. He padded himself with explosives and primers, for emergency demolition. You'd think they'd credit us with still having explosives, wouldn't you?"

The German stirred. He opened his eyes. He found himself surrounded by grim-faced, coldly hating men. Revolvers covered him. He saw the rounded case, quite harmless, in Dick's hands.

His face went startingly white. He got to his feet. There was only absolute, bitter stillness. He moistened his lips.

"Well?" he said, in suddenly excellent English. "Well?"

"Trot!" said a voice in tones of curdling fury. "Trot!"

The German looked ridiculous. He looked stunned. He could not take his eyes from the rounded metal box in Dick's hand. He pulled off his absurd fuzzy wig and threw it on the ground. Then he drew himself up haughtily.

"I do not know the term," he said arrogantly. "However, I warn you that I am an officer of the German Army. I suppose I am a prisoner of war. But I warn you that any courtesy offered me will be amply avenged within twenty-four hours!"

There was a sudden grinding of teeth. Dick glanced at Blaisdell. Blaisdell's hands opened and closed. He looked at the German with a hatred so bitter that it was sheer, sick passion. Then he turned to Dick.

"I've . . . got to make it," he said jerkily, his voice thick with rage. "There shouldn't be . . . such things. I've . . . got to make it! He said twenty-four hours! Tell these chaps to let me have a shop and stuff to work with!"

## VI.

ARMY planes took off in darkness and flew north and south and west. Each carried copies of all the data that Dick and Blaisdell had gathered—including diagrams of the tiny relays which would paralyze a trog's belt-apparatus. Such relays, made with automatic-controlled frequency, would protect any area from the brain-wave apparatus which had enabled trogs to bring American

civilization down in ruins. It was again possible to make repairs, with assurance that now they would stay. With automatic control feature, too, even a change in the carrier wave the trogs used would do no good. Any oscillating circuit in their vicinity would be paralyzed if not melted down, once they were turned on. And Americans could begin to rewind their dynamoies, repair their power plants, restore their water systems and begin again to be civilized.

But it would take time. And time was precious. Army planes were precious too, since not one factory-built airplane had been made in America for three years. But an Army plane flew out to sea. It sent back a continuous beamed signal of audible frequency. Its gyro pilot was turned off, and there had been certain specific things done to its inherently stable design.

It flew northeast. Its pilot was looking for a surface fleet. If he could, he would report the fleet and get away. But just in case he was jumped from a cloud-ambush and shot down without warning, the plane had been altered to dive immediately he could no longer make the constant controlling movements it now required. If he were blacked out by the brain-wave control, he might dive out of its field and so get away. If not, when his plane hit the water its sound signal would cease.

The signal ceased, a hundred and twenty miles from the Narrows.

Dick went down to the water front where Blaisdell worked doggedly. He had been at work all night long, and his face was drawn and haggard—but not only by fatigue. He stopped when Dick appeared.

"I've been trying to decide," he said bitterly, "whether to show you the stuff or not. You know what it is."

"I don't think you need to show me," said Dick.

Blaisdell's face twitched.

"Tell me," he said jerkily. "I'll feel better if I don't tell you."

Dick pulled an envelope out of his pocket. He drew a curved wave form in pencil. It was the outline of a brain wave, as an encephalograph records it.

"Here's a normal cycle of Paulson waves in normal consciousness, normal brain," he said briefly. He indicated it. He drew another. "This is a bit abnormal—"

"It's very like mine," said Blaisdell bitterly.

"And this," said Dick evenly, "would

show epileptic tendencies. This"—he drew a fourth line—"is the cycle when a man is in a state of catalepsy, all consciousness gone and his body rigid. In between those last two comes this"—he drew—"which is the narcoleptic wave form the trogs use to make people blank out. They induce that form with one-point-six-seven waves."

Blaisdell did not stir. Dick drew the sixth curve.

"The others make a sequence," he said evenly. "Carried one step beyond, we had epilepsy narcolepsy, and catalepsy. Carry the wave change one step farther and you'll get this. It would be—necrolepsy. If your brain made a brain wave like this, you'd die. Instantly." He paused. "You're making a beam projector for one-point-six-seven waves, and you're going to modulate the beam—like this."

Blaisdell drew a deep breath.

"You win!" Surprisingly, his tone was almost normal. He grinned a little, crookedly. "That is a death ray, and people shouldn't have death rays. So I didn't want to tell you. But I feel better that you know, just in case—I figured I'd use it today, anyhow. I have to! There'll be plenty of thousands of Germans on those ships. They'll land here with dive bombers and machine guns and tanks and everything else. I suspect they'll use gas freely, too, because nowadays there aren't any more gas masks, and we haven't got factories going that could make them. Yes, surely they'll use gas. I think I know what they expect to do."

"So do I," said Dick.

"They plan to take over everything," said Blaisdell, his voice hardening. "They'd announce that the mass consciousness of the human race was sick of civilization and had smashed it. But that the German race was somehow inherently superior, or favored by the mass consciousness, so that Germans could be civilized. They could stand it. The rest of the world couldn't. So Germans would be the civilized people of the future, and the rest of the world would be hewers of wood and drawers of water for the favored strain. All the rest of humanity would be peasants or serfs, abjectly subject to the Germans who—it had been proved—alone could be civilized and distribute some few—very few—of the benefits of civilization to the inferior breeds. But if the Germans ever ceased to be so benevolent as to rule all other people, then those others

would sink lower and lower until they became shivering, starving, cave dwellers, unable even to make fire. In fact, troglodytes—"

Dick nodded.

"Give them a hundred years, and they'd have people believing it," he said quietly. "They'd be believing it themselves in ten. Right. Would you rather that I handled that ray, Blaisdell? I won't like it any more than you do, but it's got to be done."

"I'll do it," said Blaisdell. "You're going to marry Sally, I'm glad of it, you know. I couldn't, in decency. And Sally's husband shouldn't have to remember . . . this trick. So I'll do it." He paused. "You know how to fix up another of these if necessary? I'm using sparks to generate the stuff, and reflectors to concentrate the beam. You'll find all the parts you need in the shop where I worked."

"You sound as if you didn't expect to come back," said Dick sharply. "There'll be nothing to stop you!"

"Precaution," said Blaisdell, grinning. "Nothing more. Another precaution, Dick," he added seriously. "When our people start back for Germany, they'll stop and clear out the trogs in other countries on the way. It's going to be a big responsibility, deciding what's to be done with the Germans this time. We won't want to take it all alone. When we move into Germany, it'll be all Europe moving in at once—and part of Asia, too."

"It wouldn't surprise me," said Dick.

"Now, when they go in," said Blaisdell, "you take Sally off somewhere and cut off the radio and stop the newspapers. She won't want to hear what happens. Do that, Dick, huh? She's a nice kid. She wouldn't like to hear."

"I will," said Dick.

"Now clear out!" ordered Blaisdell

gruffly. "I've got another hour's work to do on this, and that German fleet ought to be getting close. They were a hundred and twenty miles away an hour ago. I've not more than three hours altogether before they'll be steaming in the Narrows, and this tub that's all I could get is slow as the devil. So . . . long."

Blaisdell turned his back abruptly and went back to work. Dick returned to the airport. He shouldn't have left it. He was showing the electricians on the post how to set up the oscillators that paralyzed the trog circuits. He'd set up the ten-kilowatt machine in one of the hangars, and ordered every man on the field into the huge room. Then Army officers ordered them to strip. There were three trogs among the personnel, here. Stripped, they would be exposed at once. They turned on their brain wave devices. And the ten-kilowatt relay did not merely paralyze the tubes in them as Sally's small relay had done. It burned them out. And they had been prepared to explode if opened. They exploded now. The three trogs did not need to be convinced.

There was already something approaching mass production of oscillator relays in the electric shop. It was the first resumption of industry in the United States. But the German fleet was coming in, blandly and arrogantly steaming to occupy a continent sunk in barbarism.

They steamed for the entrance to New York harbor. The only sign of life there was an ancient, almost water-logged motor-scow blundering out to sea. A cloud of planes floated over the German fleet. There were not many recognizable fighting ships; the majority were transports, crammed with men. There were a few cruisers, though, a few more destroyers, and one solitary battleship. The battleship had once been



British, and it had put out to sea two years before and never been seen again. There were two French cruisers, and one Russian, and two that looked Swedish. All the ships flew the swastika flag—outlawed long since, like the skull and crossbones.

Men moved on the scow. One man bent over something at its bow. Nothing happened. A flight of planes suddenly streamed ahead, split up, and settled down confidently upon the airfields of the city. There could be no opposition, of course. Trogs at those airfields would long since have paralyzed every living human being there. The planes settled down and vanished.

The fleet came on. A plane suddenly went out of control and skittered crazily into the water. The precise alignment of the ships seemed to lessen. Those slight corrections of course which must always be applied to keep ships in formation, were not being made. The planes seemed suddenly to go crazy. Some darted down as if to attempt voice communication with ships which no longer answered by radio. Then they went mad in midair. Some dived insanely into the sides of ships. Others plunged foolishly into the water. There was a collision in mid-air and other planes seemed to be attracted to it like moths to a candle.

A far-ranging plane saw the slowly moving scow. It dived zestfully. Its machine guns spattered. There was no possible purpose save sport. Bullets spattered the scow. The man at the bow moved again, and light glittered on the object he controlled.

The diving plane veered in an insane, suicidal fashion. It hit the water and ceased to be.

The formation of the fleet was hopelessly lost. One ship crashed another. One ran aground, and its propellers continued to thrash the water uselessly as if to drive it further ashore. There was no longer a fleet.

There was merely an assembly of ships, hundreds of them, steaming on absurdly without plan or direction, as if dead men were at their helms.

Dead men were.

On the scow the man by the queer apparatus staggered. A machine-gun bullet had hit him. But he picked up the apparatus he would let no one else touch, and essayed to carry it to the cabin—and the lurching scow added to his uncertainty. He lurched overboard with the device itself. Blaisdell was the only American killed in the German invasion of America.

But there were many Germans killed, aside from those who had been on the ships. Some planes landed, and Germans got out, beaming—and they were greeted by men with burning eyes who were not at all helpless, and who were seemingly reluctant to accept even the most passionately screamed crises of surrender. But when the last of them was rounded up, the invasion was over.

Definitely.

Dick went west next day with Sally to help start civilization going again. He didn't want to stay for several reasons. One was that he was being urged to duplicate the apparatus with which Blaisdell had wiped out the German invading army in its ships. And Dick didn't want to do it. He didn't want to turn a death ray loose. And it wasn't needed, anyhow. When you weren't using 1.67 mm waves as a sneak device, but frankly in projectors, with reflectors to guide them, nonlethal waves were as effective as any army could require. Dick designed a modulation that would be very persuasive without killing anybody. He urged that no modification be tried. And he was the supreme authority on such matters, so none was tried.



# “Trojan Fall”

## By Hal Clement

*He was able to run one of those perfected, foolproof spaceships, able to navigate a little—but knew the whole story when he'd heard the first chapter!*

A GALAXY should be a perfect hiding place. A hundred billion suns and a hundred thousand light years form an appallingly large haystack in which to seek any such sub-microscopic needle as a man, or even a planet. A photograph of the Milky Way, or, better, a projection of such a photograph, can give some idea of the sense of confusion which is experienced by anyone faced with the task of combing such a maze.

That was La Roque's first impression, and his views of the galaxy had not been confined to photographs. Admittedly, he was used to interplanetary rather than interstellar flight; but it is almost as easy to get lost inside solar systems as between them. So, when it became a matter of expedience for him to disappear from sight for a time, he decided quite abruptly that Sol's little family was too crowded.

Getting a ship, even legally, was not too difficult; flight between Sol and the nearer stars was fairly common, and only the usual customs restrictions applied to private journeys. La Roque intended that his journey should be more private than usual.

He purchased a craft; the event which made departure so urgent had left him with plenty of funds. She was about as small as a second-order flyer could be: a metal egg about seventy feet long and thirty in diameter at the widest point. She had the required two second-order converters, either capable of holding the ship and six hundred tons of additional mass in the necessary condition for interstellar flight above light-speed. Her actual capacity for freight was nowhere near that figure, of course. The converters consumed mercury, but could be modified to take any reasonably dense metal of low melting point.

La Roque preferred the concealment of crowds, and for that reason chose to make his departure from the ever-busy Allahabad port. It was a little before midnight, on a July evening, that a pilot beam guided his ship beyond the Earth's atmosphere; by 1 a.m. he had switched free, pointed the blunt nose of the ship at the center of the Milk

Dipper's bowl, checked his personal equalizer, and shunted into second-order flight. The universe around him remained visible after a fashion, but aberration altered its appearance vastly. Every star swung forward; and at four hundred times the speed of light, they were all contained in a circular area, centered on his line of flight and a little over eight minutes of arc in radius. Sol was dead ahead, apparently, and prevented any possible view of his goal which might have been furnished by a telescope.

La Roque was not a navigator, and knew no more astronomy than the average educated person of his time. Although the beacon stars Rigel, Deneb, and Canopus would all be visible in any part of the galaxy his ship was likely to reach, they were useless to him. His only hope of eventual return to the Earth lay in the device which every hour, automatically cut the second-order fields for a split second and simultaneously photographed the heavens dead astern. Even that was likely to be useless if he crossed a region of low star density, where there would be no nearby, recognizable objects on the films to guide his return. He had had sense enough to realize this, and consequently had headed in the general direction of the galactic center. He was reasonably certain of finding a habitable planet; the star that lacked worlds was the exception rather than the rule. Earth-type worlds were rarer, but frequent enough to have forced the enactment of several regulations against unrestricted colonization.

Having made the first step in his getaway, he settled down to figuring out the probable line of action of the law. It would, with luck, be a full month before his means of escape would be deduced, for it was known that he was not trained in cosmic navigation, and his ship would not be missed until sufficient time had elapsed for it to make a round trip to Tau Ceti, which he had indicated at Allahabad as his destination. It would take another day or two to compute his actual direction of departure,

from the recording at the observatories which had presumably picked up his "wake." From then on, time would be short; any League cruiser of reasonable size could cover in two or three days any distance he could hope to put behind him in that month. It is an unescapable fact that the speed obtainable from a second-order unit is directly dependent on its size.

Therefore, it was essential that a hiding place be found. A planet, where the ship could be buried or otherwise concealed, would present an impossible search problem to a hundred League ships—if there were no inhabitants to hold inconvenient memories of his landing. He might find such a world by random search, but the distance he could travel in his month of grace was limited; and, he realized, very few suns lay within that distance. He got out a set of heliocentric charts and began his search on paper.

There is no excuse for him. His destination should have been planned before he left the ground—planned not only as to planet, but to location on the planet. He had always planned his "deals" with meticulous care; and had sneered at less careful colleagues whose failure to do so had resulted in more or less lengthy retirement to League reform institutions. It is impossible to say why he didn't see that the same principle might apply to interstellar flight. But he didn't.

The reference volume, that accompanied the charts was most helpful. Stellar systems were listed by right ascension, declination, and distance; so that he merely had to find the appropriate pages to find in a single group all the systems near his line of flight.

There were twelve suns, in seven systems, lying with a light-year of his course, within the distance measured by a month's flight. Such a number was most surprising; chance alone would not insist on even one star within a cylinder of space two light-years in diameter and thirty-five long. Most of them, of course, were "dead" stars, detectable at only the closest range. Six of them had planetary systems; but the planets, without exception, possessed surface temperatures below the freezing point of mercury.

That was unfortunate. To remain alive on any of these worlds would demand that he stay in the ship, and use power, for heat and light. Even such slight radiation as that would cause meant a virtual certainty of detection by even a cursory sweep of the

planet on the part of a League cruiser. He had to find a place where the ship would remain at least habitably warm without aid from its own converters. He could do without light, he thought.

The problem would not have bothered a pilot of even moderate experience, of course. The ship could easily be set in a circular orbit of any desired radius about one of the stars. Unfortunately, there is a definite relation between the mass of a star, the radius of the desired orbit, and the amount of initial tangential velocity required; and this simple relation was unknown to La Roque. Trial and error would be very unsatisfactory; the error might be unnoticed small to start with, and become large enough to require correction when searchers were around. A worried frown began to add creases above La Roque's black brows as the little flier raced on.

The spot of light in the front vision plate grew paler as Sol, who provided most of its radiance, faded astern. Within a day, he was merely a bright star; in a week, dozens of others outshone him whenever La Roque cut the drive fields. Space, the runaway began to realize, was a terrifying lonely environment. Earth was beginning, in his memory, to assume a less forbidding aspect.

Two days out, he passed the first of the seven systems. It was not visible, at half a light-year, even when the fields were off; the chart reference described it as a binary, both stars cool enough to have clouds of solid and liquid particles in their atmospheres, and neither emitting any visible radiation to speak of. The relative orbit was of almost cometary eccentricity, with a period of about seventy years. The suns had passed periastron about a dozen years before, without anyone's being greatly concerned.

It was a dry collection of data, but it jogged La Roque's mind into recalling something. He had been picturing the result of an error in establishing an orbit, as being a spiral drop into the star he had chosen. Now he recalled that he would merely find himself in a slightly eccentric, rather than a circular, orbit; and if the eccentricity were not great enough to bring his periastron point actually within the star's atmosphere, it would be perfectly stable.

The idea attracted him for a moment; even he could set up a passable concealment orbit. The possibility of being alternately too warm and too cold was unpleasant, but not forbidding. The system he was passing

would not do, of course; he took it for granted that the perturbations produced by the companion star would nullify his attempts. However, four single suns were among those he had looked up along his course, and were within easy reach.

It remained to choose one of the four. Any reasonable and normal person would have without hesitation laid a course for the nearest; La Roque, under the elemental motivation that sent an incognito Hitler to Borneo rather than Switzerland, chose the farthest. Perhaps his gambling spirit had something to do with the choice; for there was actually some doubt that he would reach the star before a League cruiser would come nosing along his wake into detection range.

From where he was, the runaway could not lay a direct course for his chosen hideout. His knowledge of solid geometry and trigonometry was so small that all he could do was to continue on his present course until the proper heliocentric distance was attained, then stop, put Sol exactly on his beam, hold it there while he turned in the proper direction, and again run in second-order flight for a certain length of time—dead reckoning pure and very simple. By thus reducing his goal position to a known plane—or near plane; actually the surface of a sphere centered on Sol—he could get the course of his second leg by simply measuring, on a plane chart, the angle whose vertex was the point in the sky toward which he had been driving, and whose sides were determined, respectively, by some beacon star such as Rigel or Deneb, and the star of his destination. He dragged out a heliocentric chart and protractor, and set to work.

Time crawled on. The nearer stars, on the trail photographs, drifted sluggishly toward Sol. La Roque found a photometer, and managed to obtain with its aid a check on his distance from the Solar system. He spent much of his time sleeping. There was nothing to read except the charts, astrographical and planetographical references, and the numbers on the currency leaves whose gathering had necessitated his departure from Earth. The latter kept up his morale for a while.

Second-order pilotage is not difficult; it depends chiefly on proper aiming of the ship before cutting in of the converters. There is practically no tendency to drift from the original heading; in fact, it is impossible to turn without cutting the fields and re-

aligning the vessel's axis. Actually, the ship will follow the arc of a circle whose radius depends to some extent on the power of the generators, but in any case is so enormous that a "local" interstellar flight may be considered rectilinear. La Roque's intended flight path was so short that his ignorance of second-order field technology made no difference. An experienced navigator, planning a flight across the galaxy, or to one of the exterior systems, would have to forecast and allow for the "drift" caused by generators of any given make and power.

One by one, the star systems La Roque had rejected dropped behind. Each time he fought the temptation to turn aside and seek refuge. Days turned into weeks, three of them, from the time he had chosen his destination. By the most generous estimate, his margin of clearance from the law was growing narrow, when he cut the fields at—according to his reckoning—twenty-eight point seven seven seven four seven light-years from the Solar System.

He snapped on plate after plate, looking around in every direction. A fifth-magnitude star on the cross wires of the rear plate was, of course, Sol. He looked for Deneb, but Cygnus was too badly distorted by a parallactic variation of nine parsecs to permit him to identify its alpha star with certainty. Orion was recognizable, since he had been moving more or less directly away from it and all its principal stars were extremely distant; so he decided to use Rigel to control his direction.

He zeroed the cross wires of one of the side plates and, using the gyros, swung the ship until Sol was centered on that plate. Rigel was, conveniently, visible on the same plate; so he snapped a switch which projected a protractor on to it, and swung the ship again until Rigel was on the proper—according to his measures—radius. Using the plate's highest power, he placed the two stars to four decimals of accuracy, released the gyro clutches, and cut in the second-order fields before friction at the gyro bearings could throw off his heading.

His arithmetic said he had eight hours and thirty minutes of flight to his destination. Experience would have told him that his chances of stopping within detection range of his goal were less than one in a hundred thousand; as it was, the chief worry that actually disturbed him was whether or not there was risk of collision. Not too surprising! In dead reckoning, the novice navigator makes a tiny point and says,

"Here we are." The junior makes a small circle and says the same. The experienced navigator lays the palm of his hand on the chart and says, "We ought to be here." And La Roque's was the deadeast of dead reckoning.

He cut the fields five seconds early, and looked expectantly at the forward plate. There should have been a crimson, glowing coal half a billion miles ahead of him. Of course there wasn't.

For a moment he was completely bewildered; but, as he was a reasonable creature, it was only for a moment. He had evidently made a mistake; not necessarily a very large one. He had already obtained the spectrobiolometric curve of the star, and fitted the appropriate templets into the detectors. There would be no confusion; no sun having anything like that energy curve could be picked up by those instruments at more than a few billion miles. The galaxy is crowded with such expiring stars, it is true; but a "crowded" star system still contains a vast amount of empty space.

La Roque "sat down"—strapped himself into a seat, since he was weightless—and planned again. He would have to sweep out the space around him, stopping at least every ten billion miles—every two minutes—for at least the ten seconds the instruments would require to sweep the celestial sphere. A volume of space that could be covered in a reasonable time would have to be decided on, and the decision adhered to. If he started a random search, he might as well open the ports.

The results of some more arithmetic bothered him. A really appalling number of five-billion-mile cubes could be packed into an area that looked very small on the chart. He finally worked the other way—allowing himself one hundred hours for the search. He decided he could cover a cube roughly one hundred and forty billion miles on a side, in that time. He realized sadly that his dead reckoning error could easily be several times that.

He was no quitter, however. He was beginning to realize the chances against him—not merely against his escape, but against his survival; he had long since realized his error in tackling a job about which he knew nothing; but having decided on his course of action, he embarked on it without hesitation. He started the sweep.

His patience lasted admirably for the first hour. It stood up fairly well for the second. By the end of the third, the smooth routine

of flight—cut-wait-and-watch-flight—was growing ragged. When the clock and radiometer dials began to blur, and the urge to break something grew almost irresistible, he called it a day and slept for two or three hours. After the second period, he couldn't sleep either.

Really, he was undeservedly lucky. One of the radiometers reacted after only eighteen hours of blind search. His near hysteria vanished instantly, washed away in a flood of relief; and with hands once more reasonably steady he swung the little ship until the emanations registered on the bow meter. He noted the strength of the reading, cut in the second-order fields for five seconds, and read the dial again. He knew the inverse square law, at least; he figured for a moment, then drove forward again for eleven more seconds, and cut the fields between twenty and thirty million miles from the source of the radiation.

It was visible to the naked eye at that range, which, in a way, was unfortunate. Had it not been, La Roque would have had a few more happy minutes. As things were, he took one look at the forward plate, and for the next ninety seconds used language which should really have been recorded for the benefit of future sailors. He had some excuse. The star was listed in the chart reference as single; La Roque had chosen it for that reason. However, plainly visible on the plate, revolving evidently almost in contact, were two smoky red suns—a close binary system.

Of course, no one would normally be greatly interested. The Astrographic Survey vessel which had covered the section had probably swept past fifty billion miles out, and noted the system's existence casually as its radiometers flickered. Size? Mass? Companions, if any? Planets? Who cared!

La Roque, of course.

The stars were red dwarfs, small and dense. They would have been seen to be irregular variables, if anyone had looked long enough; for their surface temperatures were so low that "cirrus" clouds of solid carbon particles formed and dispersed at random in their atmospheres. The larger sun was perhaps a hundred thousand miles in diameter, the other only slightly smaller. Their centers were roughly half a million miles apart, and the period of revolution about eight hours. In spite of their relatively high density, there were very noticeable tidal bulges on both.

All these facts would have been of ab-

sorbing interest to an astronomer seeking data on the internal structure of red dwarf stars; La Roque didn't know any of them, and at first didn't give a darn. He was wondering how a stable orbit could be established close enough to this system to keep him from freezing without using ship's power. The near-circular one he had planned was out; it would have had to be less than a million miles from a single sun of such late type, and the doubling of the heat source wasn't much help.

He thought of doubling back to one of the other systems which the chart had said to be single; but the nerve-racking search and disappointment he had suffered the first time made him hesitate. It was while he hesitated that memory came to his aid.

There had been an episode in his experiences which had occurred on Hector, one of the Trojan asteroids. Circumstances had caused him to remain there for some time, and a friendly jailer had explained to him just where Hector was and why it stayed there. It was in the stability point at the third corner of an equilateral triangle whose other corners were Sol and Jupiter; and though it could—and did—wobble millions of miles from the actual point, gravitational forces always brought it back.

La Roque looked out at the twin suns. Could his ship stand the temperature at the Trojan points of this system? More important, could he stand it?

He could. His instruments gave the energy distribution curve of the suns; one of the reference charts contained a table that turned the curves into surface temperatures. He was able to measure the distance between the centers of the suns, from the scale lines on the plate and his distance, which he knew roughly. Half a million miles from the surface of a star whose radius was fifty thousand miles and whose effective radiating temperature was a thousand degrees absolute, the black-body, temperature was, according to his figures, about thirty degrees centigrade. The presence of two stars made it decidedly warmer, but his ship was well insulated and the surface highly polished. It would eventually reach an equilibrium temperature considerably above that of an ideal black body, but it would take a long time doing so.

It seemed, then, that the Trojan point was the best place for him. He could find it easily enough; getting the centers of the stars sixty degrees apart would put him at the right distance. He could find the proper

plane by moving around until the two suns appeared to move across each other in straight lines. It would not take long; by varying his distance from the system he could, in a few minutes, observe it through half a revolution.

It took him, in fact, less than an hour to find the orbital plane of the suns. It took him five and a half hours of first-order acceleration at one gravity to get rid of the hundred and twenty mile per second velocity difference between Sol and this system—fortunately, the chart had mentioned the high relative velocity, or La Roque would never have thought of such a thing. In a way, he didn't mind the necessity; it was good to have weight for the first time in nearly a month. He was, of course, a little worried at the amount of time consumed; he wished he had not wasted so much of the commodity in putting Sol so far behind.

He cut the first-order drive the instant his clock told him the speeds should be equal, headed for the twin suns, and hopped for his Trojan point. Since moving bodies were involved, he had to make five legs out of the short trip—he failed to allow for the short period of the system and the fact that he started the first leg several night-hours from his goal.

He got there eventually, however. He suddenly realized that he would have to use first-order power again, to give his ship something like the proper orbital velocity; but even he was able to understand the proper magnitude and direction of this new vector; the only unjustified assumption he had to make was that the suns were of equal masses, and this happened to be nearly the case. He wasn't too worried; he understood that in a Trojan orbit such small variations are opposed, not helped, by the gravity of the primary bodies. He was quite right.

He cut all his power except the detector relay currents, which did not radiate appreciably. To these he connected an alarm, and set them to synchronize with the low-frequency waves which form the "wake" of a vessel cruising at second-order speeds. Then, abruptly feeling the reaction of the past days, he drifted over to a "bunk," moored himself, and was instantly asleep.

It is impossible to say just how long he slept; he was exhausted mentally and emotionally, and when weightless the human body can approach a condition near to suspended animation, if given the chance.

It couldn't have been for very many hours, but the alarm rang for minutes before its sound penetrated to his consciousness. When it did, he had to wait several moments before he could move a muscle.

Recovered at last, he unmoored himself and kicked his body across the narrow cabin to the instrument board, and cut the alarm, cursing. He had forgotten that the bell would radiate, and was not sure that the hull would shield its waves. The detectors were reacting violently, the needles wobbling rapidly from positive to negative limits. He knew that a ship had driven past in second-order flight, but that was as far as he could interpret the readings. It would have required an expert to compute the speed, type, and distance of the ship creating the disturbance.

After a few minutes, the needles quieted. La Roque remained at the board, judging that the ship had not left for good. He was right. The disturbances started again half an hour later, and kept up for hours thereafter—sometimes so feeble as to cause a barely visible quiver of the needles, sometimes slamming them against the stop pins with audible clicks. La Roque was incapable of reading any meaning except changing distance into this phenomenon.

The "wake" of a ship in straight-line, second-order flight consists of a few low-frequency electromagnetic waves, the wave-front being, as can easily be seen, cone-shaped, with the ship at the apex. The cone expands radially at the speed of light, and its tip moves forward with the ship—in the case of a military craft, at anywhere up to something like a million light velocities.

If the ship is not in straight-line flight, but cutting its fields and changing direction every few minutes or seconds, the shape of the wave front becomes rather complex. A standard search path spirals around the surface of a torus, and after a few hours the traces of such a flight would be the despair of a competent mathematician, let alone an amateur at a comparatively fixed observation post. The space for billions of miles around that binary sun was quivering with crisscrossing wave fronts. Each set the needles of La Roque's detectors quivering in tune as it passed him, and each quiver brought beads of sweat to the runaway's brow. His own ship, he realized, had left similar fronts; and he had shaved his margin of escape much too fine. Had they been given a week, or even three or four days, for expansion at the speed of light,

he could have ceased to worry about their being used to trail him.

He wondered just what the searchers would do. They must have trailed him directly to this system, as he had expected. They might try to find an inactive ship in space, but La Roque doubted that such a search would be practical unless there existed detection instruments unknown to the general public.

He wondered if the system contained any planets, to add to the searchers' difficulties. He himself had seen none, and none was listed on the chart; but they would have been nearly invisible in the dim light of the twin suns, and La Roque's faith in the chart had dropped a long way. If there were any, they would be a real help; they would have to be searched mile by square mile.

But the question of prime importance was, how long would the pursuers stay? Certainly, if they had the patience they could outwait him, for their food supply would outlast his; but for all they knew he might have met with a fatal accident, or encountered an organized outlaw base—either could easily happen. If he refrained from radiating long enough, they might decide further search futile. He could do that; the darkness didn't bother him particularly, and the ship was warm enough—a little too warm, in fact. Evidently his figures had not been exact.

Eventually the detectors stopped reacting, and La Roque started waiting. He was still perspiring, less from worry now than from actual warmth. The ship was becoming uncomfortable. He removed his outer clothing and felt better for a while.

Time crawled on—rapidly decelerating, in La Roque's opinion. He had nothing to do except notice his own discomfort, which was on the increase. He cursed the ship's builders for failure to insulate it properly, and the men who had computed the tables he had used to obtain the probable temperature at this distance from the suns. He didn't bother to curse his own arithmetic.

Once he was almost on the point of driving farther out, hoping the pursuing ship had gone; but a flicker from one of the detectors made him change his mind. He hung and sweated; and the temperature mounted.

It must have been a hundred and fifty degrees Fahrenheit when he finally gave in. He could have stood more in the open—anyone could—but the air-conditioning apparatus had been stopped along with every-

thing else, and the air in the ship was approaching saturation. With that fact considered, he held out remarkably well; but eventually his will power gave out. He kicked his way feebly back to the board, and snapped on the vision plates.

He lacked the energy to curse. For moments he could only stare in shocked horror at the plates—and realize how misdirected his previous denunciations had been. There was nothing wrong with his ship's insulation; the wonder was that it had held out so well. One of the suns—he never knew which—completely filled the front, top, and port plates with a blaze of sooty crimson; he must have been within thirty or forty thousand miles of its surface. His hand darted toward the activating switch of the second-order drivers, and was as quickly checked. They would only send him straight forward, into the inferno revealed by the front plate. The ship must be turned.

He started the gyros, careless now of any insulation that might result. The control knobs were hot to the touch; and a smell of burning oil reached his nostrils as the gyros wound up to speed. The ship abruptly shuddered and began to gyrate slowly, as one of them seized in its bearings. He watched tensely as the vessel went through a full rotation, his hand hovering over the board; but not once was the glow in the forward plate replaced by the friendly darkness of space. The ship was spinning on its longitudinal axis.

The other gyros were working. He tried to turn the vessel with them. The result was to shift the axis of spin about thirty degrees—and increase its rate tenfold as another of the heavy wheels, spinning at full speed, jammed abruptly. Centrifugal force snatched him away from the board and against one wall; he shrieked as his flesh touched hot metal, and kicked violently. His body shot across the room, reaching the other side at about the same time his previous point of contact was carried around by the ship's rotation.

The specks of carbon cirrus on the front plate were describing circles now—circles whose size was visibly increasing. For part of each turn the nose was now pointing into space; La Roque tried to fight his way back to the board to take advantage of one of those moments.

He might have made it, in spite of the

agony of his burns, but the overstrained insulation had done its best. It failed; and failed, of all places, over the water tanks that lined part of the hull. The tanks themselves offered only token resistance as steam pressure suddenly built up in them. La Roque never knew when scalding water shorted the control board, for a jet of superheated steam had caught him just before he reached it.

On the enforcement cruiser, a man straightened up from a plotting board.

"That does it, I think," he said. "He was using heavy current for a while, probably trying to turn out with his gyros; then there was a flash of S. H. F., and everything stopped. That must have taken out his second-order, and he'd have had to use about sixty gravities of first-order to pull out of that spot. I wonder what he was doing so close to those suns."

"Could have been hiding," suggested a second pilot. "He might have thought the suns would mask most of his radiation. I wonder how he expected to stay there any length of time, though."

"I know what I'd have done in his place," replied the first man. "I'd have put my ship into a Trojan position and waited the business out. He could have lasted indefinitely there. I wonder why he didn't try that."

"He probably did." The speaker was a navigator, who had kept silent up to this point. "If a smart man like you would do it, a fellow like that couldn't be expected to know any better. Have you ever seen a planet in the Trojan points of any double sun? I'll bet you haven't. That Trojan solution works fine for Sol and Jupiter—Sol is a thousand times the more massive. It would work for Earth and Luna, since one has about eighty times the mass of the other. But I have never seen a binary star where the mass ratio was anywhere near twenty-five to one; and if it's less, the Trojan solution to the three-body problem doesn't work. Don't ask me why; I couldn't show you the math; but I know it's true—the stability function breaks, with surprising sharpness, right about the twenty-five-to-one mass ratio. Our elusive friend didn't know that, any more than you did, and parked his ship right in the path of a rapidly moving sun." He shrugged his shoulders, and turned away. "Live and learn, they say," he finished, "but the difficulty seems to lie in living while you learn."

# "Arena"

## By Fredric Brown

*It was a weird sort of battle for survival—not only of individuals, but each, against his will, represented his whole race. And the battle rested on ingenuity, tenacity and courage, not strength alone—*

CARSON opened his eyes, and found himself looking upward into a flickering blue dimension.

It was hot, and he was lying on sand, and a sharp rock embedded in the sand was hurting his back. He rolled over to his side, off the rock, and then pushed himself up to a sitting position.

"I'm crazy," he thought. "Crazy—or dead—or something." The sand was blue, bright blue. And there wasn't any such thing as bright blue sand on Earth or any of the planets.

*Blue sand.*

Blue sand under a blue dome that wasn't the sky nor yet a room, but a circumscribed area—somehow he knew it was circumscribed and finite even though he couldn't see to the top of it.

He picked up some of the sand in his hand and let it run through his fingers. It trickled down onto his bare leg. *Bare?*

Naked. He was stark naked, and already his body was dripping perspiration from the enervating heat, coated blue with sand whenever sand had touched it.

But elsewhere his body was white.

He thought: Then this sand is really blue. If it seemed blue only because of the blue light, then I'd be blue also. But I'm white, so the sand is blue. *Blue sand.* There isn't any blue sand. There isn't any place like this place I'm in.

Sweat was running down in his eyes.

It was hot, hotter than hell. Only hell—the hell of the ancients—was supposed to be red and not blue.

But if this place wasn't hell, what was it? Only Mercury, among the planets, had heat like this and this wasn't Mercury. And Mercury was some four billion miles from—

It came back to him then, where he'd been. In the little one-man scouter, outside the orbit of Pluto, scouting a scant million miles to one side of the Earth Armada drawn up in battle array there to intercept the Outsiders.

That sudden strident nerve-shattering ringing of the alarm bell when the rival scouter—the Outsider ship—had come within range of his detectors—

No one knew who the Outsiders were, what they looked like, from what far galaxy they came, other than that it was in the general direction of the Pleiades.

First, sporadic raids on Earth colonies and outposts. Isolated battles between Earth patrols and small groups of Outsider spaceships; battles sometimes won and sometimes lost, but never to date resulting in the capture of an alien vessel. Nor had any member of a raided colony ever survived to describe the Outsiders who had left the ships, if indeed they had left them.

Not a too-serious menace, at first, for the raids had not been too numerous or destructive. And individually, the ships had proved slightly inferior in armament to the best of Earth's fighters, although somewhat superior in speed and maneuverability. A sufficient edge in speed, in fact, to give the Outsiders their choice of running or fighting, unless surrounded.

Nevertheless, Earth had prepared for serious trouble, for a showdown, building the mightiest armada of all time. It had been waiting now, that armada, for a long time. But now the showdown was coming.

Scouts twenty billion miles out had detected the approach of a mighty fleet—a showdown fleet—of the Outsiders. Those scouts had never come back, but their radio-tronic messages had. And now Earth's armada, all ten thousand ships and half-million fighting spacemen, was out there, outside Pluto's orbit, waiting to intercept and battle to the death.

And an even battle it was going to be, judging by the advance reports of the men of the far picket line who had given their lives to report—before they had died—on the size and strength of the alien fleet.

Anybody's battle, with the mastery of the solar system hanging in the balance, on an even chance. A last and *only* chance, for

Earth and all her colonies lay at the utter mercy of the Outsiders if they ran that gauntlet—

Oh yes. Bob Carson remembered now.

Not that it explained blue sand and flickering blueness. But that strident alarming of the bell and his leap for the control panel. His frenzied fumbling as he strapped himself into the seat. The dot in the visiplate that grew larger.

The dryness of his mouth. The awful knowledge that this was *it*. For him, at least, although the main fleets were still out of range of one another.

This, his first taste of battle. Within three seconds or less he'd be victorious, or a charred cinder. Dead.

Three seconds—that's how long a space-battle lasted. Time enough to count to three, slowly, and then you'd won or you were dead. One hit completely took care of a lightly armed and armored little one-man craft like a scouter.

Frantically—as, unconsciously, his dry lips shaped the word "One"—he worked at the controls to keep that growing dot centered on the crossed spiderwebs of the visiplate. His hands doing that, while his right foot hovered over the pedal that would fire the bolt. The single bolt of concentrated hell that had to hit—or else. There wouldn't be time for any second shot.

"Two." He didn't know he'd said that, either. The dot in the visiplate wasn't a dot now. Only a few thousand miles away, it showed up in the magnification of the plate as though it were only a few hundred yards off. It was a sleek, fast little scouter, about the size of his.

And an alien ship, all right.

"Thr—" His foot touched the bolt-release pedal—

And then the Outsider had swerved suddenly and was off the crosshairs. Carson punched keys frantically, to follow.

For a tenth of a second, it was out of the visiplate entirely, and then as the nose of his scouter swung after it, he saw it again, diving straight toward the ground.

*The ground?*

It was an optical illusion of some sort. It *had* to be, that planet—or whatever it was—that now covered the visiplate. Whatever it was, it couldn't be there. Couldn't possibly. There *wasn't* any planet nearer than Neptune three billion miles away—with Pluto around on the opposite side of the distant pinpoint sun.

His *detectors!* They hadn't shown any

object of planetary dimensions, even of asteroid dimensions. They still didn't.

So it couldn't be there, that whatever it was he was diving into, only a few hundred miles below him.

And in his sudden anxiety to keep from crashing, he forgot even the Outsider ship. He fired the front braking rockets, and even as the sudden change of speed slammed him forward against the seat straps, he fired full right for an emergency turn. Pushed them down and *held* them down, knowing that he needed everything the ship had to keep from crashing and that a turn that sudden would black him out for a moment.

It did black him out.

And that was all. Now he was sitting in hot blue sand, stark naked but otherwise unhurt. No sign of his spaceship and—for that matter—no sign of *space*. That curve overhead wasn't a sky, whatever else it was.

He scrambled to his feet.

Gravity seemed a little more than Earth-normal. Not much more.

Flat sand stretching away, a few scrawny bushes in clumps here and there. The bushes were blue, too, but in varying shades, some lighter than the blue of the sand, some darker.

Out from under the nearest bush ran a little thing that was like a lizard, except that it had more than four legs. It was blue, too. Bright blue. It saw him and ran back again under the bush.

He looked up again, trying to decide what was overhead. It wasn't exactly a roof, but it was dome-shaped. It flickered and was hard to look at. But definitely, it curved down to the ground, to the blue sand, all around him.

He wasn't far from being under the center of the dome. At a guess, it was a hundred yards to the nearest wall, if it was a wall. It was as though a blue hemisphere of *something* about two hundred and fifty yards in circumference, was inverted over the flat expanse of the sand.

And everything blue, except one object. Over near a far curving wall there was a red object. Roughly spherical, it seemed to be about a yard in diameter. Too far for him to see clearly through the flickering blueness. But, unaccountably, he shuddered.

He wiped sweat from his forehead, or tried to, with the back of his hand.

Was this a dream, a nightmare? This heat, this sand, that vague feeling of horror he felt when he looked toward that red thing?

A dream? No, one didn't go to sleep and dream in the midst of a battle in space.

Death? No, never. If there were immortality, it wouldn't be a senseless thing like this, a thing of blue heat and blue sand and a red horror.

Then he heard the voice—

Inside his head he heard it, not with his ears. It came from nowhere or everywhere.

*"Through spaces and dimensions wandering,"* rang the words in his mind, *"and in this space and this time I find two peoples about to exterminate one and so weaken the other that it would retrogress and never fulfil its destiny, but decay and return to mindless dust whence it came. And I say this must not happen."*

"Who . . . what are you?" Carson didn't say it loud, but the question formed itself in his brain.

*"You would not understand completely. I am—"* There was a pause as though the voice sought—in Carson's brain—for a word that wasn't there, a word he didn't know. *"I am the end of evolution of a race so old the time can not be expressed in words that have meaning to your mind. A race fused into a single entity, eternal—"*

*"An entity such as your primitive race might become"—* again the groping for a word—*"time from now. So might the race you call, in your mind, the Outsiders. So I intervene in the battle to come, the battle between fleets so evenly matched that destruction of both races will result. One must survive. One must progress and evolve."*

"One?" thought Carson. "Mine or—?"

*"It is in my power to stop the war, to send the Outsiders back to their galaxy. But they would return, or your race would sooner or later follow them there. Only by remaining in this space and time to intervene constantly could I prevent them from destroying one another, and I cannot remain."*

*"So I shall intervene now. I shall destroy one fleet completely without loss to the other. One civilization shall thus survive."*

Nightmare. This had to be nightmare, Carson thought. But he knew it wasn't.

It was too mad, too impossible, to be anything but real.

He didn't dare ask the question—which? But his thoughts asked it for him.

*"The stronger shall survive,"* said the voice. *"That I can not—and would not—change. I merely intervene to make it a complete victory, not"—* groping again—*"not Pyrrhic victory to a broken race."*

*"From the outskirts of the not-yet battle*

*I plucked two individuals, you and an Outsider. I see from your mind that in your early history of nationalisms battles between champions, to decide issues between races, were not unknown."*

*"You and your opponent are here pitted against one another, naked and unarmed, under conditions equally unfamiliar to you both, equally unpleasant to you both. There is no time limit, for here there is no time. The survivor is the champion of his race. That race survives."*

"But—" Carson's protest was too inarticulate for expression, but the voice answered it.

*"It is fair. The conditions are such that the accident of physical strength will not completely decide the issue. There is a barrier. You will understand. Brain-power and courage will be more important than strength. Most especially courage, which is the will to survive."*

"But while this goes on, the fleets will—"

*"No, you are in another space, another time. For as long as you are here, time stands still in the universe you know. I see you wonder whether this place is real. It is, and it is not. As I—to your limited understanding—am and am not real. My existence is mental and not physical. You saw me as a planet; it could have been as a dust-mote or a sun."*

*"But to you this place is now real. What you suffer here will be real. And if you die here, your death will be real. If you die, your failure will be the end of your race. That is enough for you to know."*

And then the voice was gone.

Again he was alone, but not alone. For as Carson looked up, he saw that the red thing, the red sphere of horror which he now knew was the Outsider, was rolling toward him.

Rolling.

It seemed to have no legs or arms that he could see, no features. It rolled across the blue sand with the fluid quickness of a drop of mercury. And before it, in some manner he could not understand, came a paralyzing wave of nauseating, retching, horrid hatred.

Carson looked about him frantically. A stone, lying in the sand a few feet away, was the nearest thing to a weapon. It wasn't large, but it had sharp edges, like a slab of flint. It looked a bit like blue flint.

He picked it up, and crouched to receive the attack. It was coming fast, faster than he could run.

No time to think out how he was going to fight it, and how anyway could he plan to battle a creature whose strength, whose characteristics, whose method of fighting he did not know? Rolling so fast, it looked more than ever like a perfect sphere.

Ten yards away. Five. And then it stopped.

Rather, it *was stopped*. Abruptly the near side of it flattened as though it had run up against an invisible wall. It bounced, actually bounced back.

Then it rolled forward again, but more slowly, more cautiously. It stopped again, at the same place. It tried again, a few yards to one side.

There was a barrier there of some sort. It clicked, then, in Carson's mind. That thought projected into his mind by the Entity who had brought them there: "—accident of physical strength will not completely decide the issue. There is a barrier."

A force-field, of course. Not the Netzian Field, known to Earth science, for that glowed and emitted a crackling sound. This one was invisible, silent.

It was a wall that ran from side to side of the inverted hemisphere; Carson didn't have to verify that himself. The Roller was doing that; rolling sideways along the barrier, seeking a break in it that wasn't there.

Carson took half a dozen steps forward, his left hand groping out before him, and then his hand touched the barrier. It felt smooth, yielding, like a sheet of rubber rather than like glass. Warm to his touch, but no warmer than the sand underfoot. And it was completely invisible, even at close range.

He dropped the stone and put both hands against it, pushing. It seemed to yield, just a trifle. But no farther than that trifle, even when he pushed with all his weight. It felt like a sheet of rubber backed up by steel. Limited resiliency, and then firm strength.

He stood on tiptoe and reached as high as he could and the barrier was still there.

He saw the Roller coming back, having reached one side of the arena. That feeling of nausea hit Carson again, and he stepped back from the barrier as it went by. It didn't stop.

But did the barrier stop at ground level? Carson knelt down and burrowed in the sand. It was soft, light, easy to dig in. At two feet down the barrier was still there.

The Roller was coming back again. Obviously, it couldn't find a way through at either side.

There must be a way through, Carson thought. *Some* way we can get at each other, else this duel is meaningless.

But no hurry now, in finding that out. There was something to try first. The Roller was back now, and it stopped just across the barrier, only six feet away. It seemed to be studying him, although for the life of him, Carson couldn't find external evidence of sense organs on the thing. Nothing that looked like eyes or ears, or even a mouth. There was though, he saw now, a series of grooves—perhaps a dozen of them altogether, and he saw two tentacles suddenly push out from two of the grooves and dip into the sand as though testing its consistency. Tentacles about an inch in diameter and perhaps a foot and a half long.

But the tentacles were retractable into the grooves and were kept there except when not in use. They were retracted when the thing rolled and seemed to have nothing to do with its method of locomotion. That, as far as Carson could judge, seemed to be accomplished by some shifting—just *how* he couldn't even imagine—of its center of gravity.

He shuddered as he looked at the thing. It was alien, utterly alien, horribly different from anything on Earth or any of the life forms found on the other solar planets. Instinctively, somehow, he knew its mind was as alien as its body.

But he had to try. If it had no telepathic powers at all, the attempt was foredoomed to failure, yet he thought it had such powers. There had, at any rate, been a projection of something that was not physical at the time a few minutes ago when it had first started for him. An almost tangible wave of hatred.

If it could project that, perhaps it could read his mind as well, sufficiently for his purpose.

Deliberately, Carson picked up the rock that had been his only weapon, then tossed it down again in a gesture of relinquishment and raised his empty hands, palms up, before him.

He spoke aloud, knowing that although the words would be meaningless to the creature before him, speaking them would focus his own thoughts more completely upon the message.

"Can we not have peace between us?" he said, his voice sounding strange in the utter stillness. "The Entity who brought us here has told us what must happen if our races fight—extinction of one and weakening and

retrogression of the other. The battle between them, said the Entity, depends upon what we do here. Why can not we agree to an eternal peace—your race to its galaxy, we to ours?"

Carson blanked out his mind to receive a reply.

It came, and it staggered him back, physically. He actually recoiled several steps in sheer horror at the depth and intensity of the hatred and lust-to-kill of the red images that had been projected at him. Not as articulate words—as had come to him the thoughts of the Entity—but as wave upon wave of fierce emotion.

For a moment that seemed an eternity he had to struggle against the mental impact of that hatred, fight to clear his mind of it and drive out the alien thoughts to which he had given admittance by blanking his own thoughts. He wanted to retch.

Slowly his mind cleared as, slowly, the mind of a man wakening from nightmare clears away the fear-fabric of which the dream was woven. He was breathing hard and he felt weaker, but he could think.

He stood studying the Roller. It had been motionless during the mental duel it had so nearly won. Now it rolled a few feet to one side, to the nearest of the blue bushes. Three tentacles whipped out of their grooves and began to investigate the bush.

"O.K.," Carson said, "so it's war then." He managed a wry grin. "If I got your answer straight, peace doesn't appeal to you." And, because he was, after all, a quite young man and couldn't resist the impulse to be dramatic, he added. "To the death!"

But his voice, in that utter silence, sounded very silly, even to himself. It came to him, then, that this was to the death. Not only his own death or that of the red spherical thing which he now thought of as the Roller, but death to the entire race of one or the other of them. The end of the human race, if he failed.

It made him suddenly very humble and very afraid to think that. More than to think it, to know it. Somehow, with a knowledge that was above even faith, he knew that the Entity who had arranged this duel had told the truth about its intentions and its powers. It wasn't kidding.

The future of humanity depended upon him. It was an awful thing to realize, and he wrenched his mind away from it. He had to concentrate on the situation at hand.

There had to be some way of getting

through the barrier, or of killing through the barrier.

Mentally? He hoped that wasn't all, for the Roller obviously had stronger telepathic powers than the primitive, undeveloped ones of the human race. Or did it?

He had been able to drive the thoughts of the Roller out of his own mind; could it drive out his? If its ability to project were stronger, might not its receptivity mechanism be more vulnerable?

He stared at it and endeavored to concentrate and focus all his thought upon it.

"Die," he thought. "You are going to die. You are dying. You are—"

He tried variations on it, and mental pictures. Sweat stood out on his forehead and he found himself trembling with the intensity of the effort. But the Roller went ahead with its investigation of the bush, as utterly unaffected as though Carson had been reciting the multiplication table.

So that was no good.

He felt a bit weak and dizzy from the heat and his strenuous effort at concentration. He sat down on the blue sand to rest and gave his full attention to watching and studying the Roller. By close study, perhaps, he could judge its strength and detect its weaknesses, learn things that would be valuable to know when and if they should come to grips.

It was breaking off twigs. Carson watched carefully, trying to judge just how hard it worked to do that. Later, he thought, he could find a similar bush on his own side, break off twigs of equal thickness himself, and gain a comparison of physical strength between his own arms and hands and those tentacles.

The twigs broke off hard; the Roller was having to struggle with each one, he saw. Each tentacle, he saw, bifurcated at the tip into two fingers, each tipped by a nail or claw. The claws didn't seem to be particularly long or dangerous. No more so than his own fingernails, if they were let to grow a bit.

No, on the whole, it didn't look too tough to handle physically. Unless, of course, that bush was made of pretty tough stuff. Carson looked around him and, yes, right within reach was another bush of identically the same type.

He reached over and snapped off a twig. It was brittle, easy to break. Of course, the Roller might have been faking deliberately but he didn't think so.

On the other hand, where was it vulner-

able? Just how would he go about killing it, if he got the chance? He went back to studying it. The outer hide looked pretty tough. He'd need a sharp weapon of some sort. He picked up the piece of rock again. It was about twelve inches long, narrow, and fairly sharp on one end. If it chipped like flint, he could make a serviceable knife out of it.

The Roller was continuing its investigations of the bushes. It rolled again, to the nearest one of another type. A little blue lizard, many-legged like the one Carson had seen on his side of the barrier, darted out from under the bush.

A tentacle of the Roller lashed out and caught it, picked it up. Another tentacle whipped over and began to pull legs off the lizard, as coldly and calmly as it had pulled twigs off the bush. The creature struggled frantically and emitted a shrill squealing sound that was the first sound Carson had heard here other than the sound of his own voice.

Carson shuddered and wanted to turn his eyes away. But he made himself continue to watch; anything he could learn about his opponent might prove valuable. Even this knowledge of its unnecessary cruelty. Particularly, he thought with a sudden vicious surge of emotion, this knowledge of its unnecessary cruelty. It would make it a pleasure to kill the thing, if and when the chance came.

He steeled himself to watch the dismembering of the lizard, for that very reason.

But he felt glad when, with half its legs gone, the lizard quit squealing and struggling and lay limp and dead in the Roller's grasp.

It didn't continue with the rest of the legs. Contemptuously it tossed the dead lizard away from it, in Carson's direction. It arced through the air between them and landed at his feet.

It had come through the barrier! The barrier wasn't there any more!

Carson was on his feet in a flash, the knife gripped tightly in his hand, and leaped forward. He'd settle this thing here and now! With the barrier gone—

But it wasn't gone. He found that out the hard way, running head on into it and nearly knocking himself silly. He bounced back, and fell.

And as he sat up, shaking his head to clear it, he saw something coming through the air toward him, and to duck it, he threw himself flat again on the sand, and to one side. He got his body out of the way, but

there was a sudden sharp pain in the calf of his left leg.

He rolled backward, ignoring the pain, and scrambled to his feet. It was a rock, he saw now, that had struck him. And the Roller was picking up another one now, swinging it back gripped between two tentacles, getting ready to throw again.

It sailed through the air toward him, but he was easily able to step out of its way. The Roller, apparently, could throw straight, but not hard nor far. The first rock had struck him only because he had been sitting down and had not seen it coming until it was almost upon him.

Even as he stepped aside from that weak second throw, Carson drew back his right arm and let fly with the rock that was still in his hand. If missiles, he thought with sudden elation, can cross the barrier, then two can play at the game of throwing them. And the good right arm of an Earthman—

He couldn't miss a three-foot sphere at only four-yard range, and he didn't miss. The rock whizzed straight, and with a speed several times that of the missiles the Roller had thrown. It hit dead center, but it hit flat, unfortunately, instead of point first.

But it hit with a resounding thump, and obviously it hurt. The Roller had been reaching for another rock, but it changed its mind and got out of there instead. By the time Carson could pick up and throw another rock, the Roller was forty yards back from the barrier and going strong.

His second throw missed by feet, and his third throw was short. The Roller was back out of range—at least out of range of a missile heavy enough to be damaging.

Carson grinned. That round had been his. Except—

He quit grinning as he bent over to examine the calf of his leg. A jagged edge of the stone had made a pretty deep cut, several inches long. It was bleeding pretty freely, but he didn't think it had gone deep enough to hit an artery. If it stopped bleeding of its own accord, well and good. If not, he was in for trouble.

Finding out one thing, though, took precedence over that cut. The nature of the barrier.

He went forward to it again, this time groping with his hands before him. He found it; then holding one hand against it, he tossed a handful of sand at it with the other hand. The sand went right through. His hand didn't.

Organic matter versus inorganic? No, be-

cause the dead lizard had gone through it, and a lizard, alive or dead, was certainly organic. Plant life? He broke off a twig and poked it at the barrier. The twig went through, with no resistance, but when his fingers gripping the twig came to the barrier, they were stopped.

He couldn't get through it, nor could the Roller. But rocks and sand and a dead lizard—

How about a live lizard? He went hunting, under bushes, until he found one, and caught it. He tossed it gently against the barrier and it bounced back and scurried away across the blue sand.

That gave him the answer, in so far as he could determine it now. The screen was a barrier to living things. Dead or inorganic matter could cross it.

That off his mind, Carson looked at his injured leg again. The bleeding was lessening, which meant he wouldn't need to worry about making a tourniquet. But he should find some water, if any was available, to clean the wound.

Water—the thought of it made him realize that he was getting awfully thirsty. He'd have to find water, in case this contest turned out to be a protracted one.

Limping slightly now, he started off to make a full circuit of his half of the arena. Guiding himself with one hand along the barrier, he walked to his right until he came to the curving sidewall. It was visible, a dull blue-gray at close range, and the surface of it felt just like the central barrier.

He experimented by tossing a handful of sand at it, and the sand reached the wall and disappeared as it went through. The hemispherical shell was a force-field, too. But an opaque one, instead of transparent like the barrier.

He followed it around until he came back to the barrier, and walked back along the barrier to the point from which he'd started.

No sign of water.

Worried now, he started a series of zig-zags back and forth between the barrier and the wall, covering the intervening space thoroughly.

No water. Blue sand, blue bushes, and intolerable heat. Nothing else.

It must be his imagination, he told himself angrily, that he was suffering *that* much from thirst. How long had he been there? Of course, no time at all, according to his own space-time frame. The Entity had told him time stood still out there, while he was

here. But his body processes went on here, just the same. And according to his body's reckoning, how long had he been here? Three or four hours, perhaps. Certainly not long enough to be suffering seriously from thirst.

But he was suffering from it; his throat dry and parched. Probably the intense heat was the cause. It was *hot!* A hundred and thirty Fahrenheit, at a guess. A dry, still heat without the slightest movement of air.

He was limping rather badly, and utterly fagged out when he'd finished the futile exploration of his domain.

He stared across at the motionless Roller and hoped it was as miserable as he was. And quite possibly it wasn't enjoying this, either. The Entity had said the conditions here were equally unfamiliar and equally uncomfortable for both of them. Maybe the Roller came from a planet where two-hundred degree heat was the norm. Maybe it was freezing while he was roasting.

Maybe the air was as much too thick for it as it was too thin for him. For the exertion of his explorations had left him panting. The atmosphere here, he realized now, was not much thicker than that on Mars.

No water.

That meant a deadline, for him at any rate. Unless he could find a way to cross that barrier or to kill his enemy from this side of it, thirst would kill him, eventually.

It gave him a feeling of desperate urgency. He *must* hurry.

But he made himself sit down a moment to rest, to think.

What was there to do? Nothing, and yet so many things. The several varieties of bushes, for example. They didn't look promising, but he'd have to examine them for possibilities. And his leg—he'd have to do something about that, even without water to clean it. Gather ammunition in the form of rocks. Find a rock that would make a good knife.

His leg hurt rather badly now, and he decided that came first. One type of bush had leaves—or things rather similar to leaves. He pulled off a handful of them and decided, after examination, to take a chance on them. He used them to clean off the sand and dirt and caked blood, then made a pad of fresh leaves and tied it over the wound with tendrils from the same bush.

The tendrils proved unexpectedly tough and strong. They were slender, and soft and pliable, yet he couldn't break them at all.

He had to saw them off the bush with the sharp edge of a piece of the blue flint. Some of the thicker ones were over a foot long, and he filed away in his memory, for future reference, the fact that a bunch of the thick ones, tied together, would make a pretty serviceable rope. Maybe he'd be able to think of a use for rope.

Next, he made himself a knife. The blue flint *did* chip. From a foot-long splinter of it, he fashioned himself a crude but lethal weapon. And of tendrils from the bush, he made himself a rope-belt through which he could thrust the flint knife, to keep it with him all the time and yet have his hands free.

He went back to studying the bushes. There were three other types. One was leafless, dry, brittle, rather like a dried tumbleweed. Another was of soft, crumbly wood, almost like punk. It looked and felt as though it would make excellent tinder for a fire. The third type was the most nearly woodlike. It had fragile leaves that wilted at the touch, but the stalks, although short, were straight and strong.

It was horribly, unbearably hot.

He limped up to the barrier, felt to make sure that it was still there. It was.

He stood watching the Roller for a while. It was keeping a safe distance back from the barrier, out of effective stone-throwing range. It was moving around back there, doing something. He couldn't tell what it was doing.

Once it stopped moving, came a little closer, and seemed to concentrate its attention on him. Again Carson had to fight off a wave of nausea. He threw a stone at it and the Roller retreated and went back to whatever it had been doing before.

At least he could make it keep its distance.

And, he thought bitterly, a devil of a lot of good *that* did him. Just the same, he spent the next hour or two gathering stones of suitable size for throwing, and making several neat piles of them, near his side of the barrier.

His throat burned now. It was difficult for him to think about anything except water.

But he *had* to think about other things. About getting through that barrier, under or over it, getting *at* that red sphere and killing it before this place of heat and thirst killed him first.

The barrier went to the wall upon either side, but how high and how far under the sand?

For just a moment, Carson's mind was too fuzzy to think out how he could find out either of those things. Idly, sitting there in the hot sand—and he didn't remember sitting down—he watched a blue lizard crawl from the shelter of one bush to the shelter of another.

From under the second bush, it looked out at him.

Carson grinned at it. Maybe he was getting a bit punch-drunk, because he remembered suddenly the old story of the desert-colonists on Mars, taken from an older desert story of Earth—"Pretty soon you get so lonesome you find yourself talking to the lizards, and then not so long after that you find the lizards talking back to you—"

He should have been concentrating, of course, on how to kill the Roller, but instead he grinned at the lizard and said, "Hello, there."

The lizard took a few steps toward him. "Hello," it said.

Carson was stunned for a moment, and then he put back his head and roared with laughter. It didn't hurt his throat to do so, either; he hadn't been *that* thirsty.

Why not? Why should the Entity who thought up this nightmare of a place not have a sense of humor, along with the other powers he has? Talking lizards, equipped to talk back in my own language, if I talk to them—It's a nice touch.

He grinned at the lizard and said, "Come on over." But the lizard turned and ran away, scurrying from bush to bush until it was out of sight.

He was thirsty again.

And he had to *do* something. He couldn't win this contest by sitting here sweating and feeling miserable. He had to *do* something. But what?

Get through the barrier. But he couldn't get through it, or over it. But was he certain he couldn't get under it? And come to think of it, didn't one sometimes find water by digging—Two birds with one stone—

Painfully now, Carson limped up to the barrier and started digging, scooping up sand a double handful at a time. It was slow, hard work because the sand ran in at the edges and the deeper he got the bigger in diameter the hole had to be. How many hours it took him, he didn't know, but he hit bedrock four feet down. Dry bedrock; no sign of water.

And the force-field of the barrier went down clear to the bedrock. No dice. No water. Nothing.

He crawled out of the hole and lay there panting, and then raised his head to look across and see what the Roller was doing. It must be doing something back there.

It was. It was making something out of wood from the bushes, tied together with tendrils. A queerly shaped framework about four feet high and roughly square. To see it better, Carson climbed up onto the mound of sand he had excavated from the hole, and stood there staring.

There were two long levers sticking out of the back of it, one with a cup-shaped affair on the end of it. Seemed to be some sort of a catapult, Carson thought.

Sure enough, the Roller was lifting a sizable rock into the cup-shaped outfit. One of his tentacles moved the other lever up and down for a while, and then he turned the machine slightly as though aiming it and the lever with the stone flew up and forward.

The stone arced several yards over Carson's head, so far away that he didn't have to duck, but he judged the distance it had traveled, and whistled softly. He couldn't throw a rock that weight more than half that distance. And even retreating to the rear of his domain wouldn't put him out of range of that machine, if the Roller shoved it forward almost to the barrier.

Another whizzed over. Not quite so far away this time.

That thing could be dangerous, he decided. Maybe he'd better do something about it.

Moving from side to side along the barrier, so the catapult couldn't bracket him, he whaled a dozen rocks at it. But that wasn't going to be any good, he saw. They had to be light rocks, or he couldn't throw them that far. If they hit the framework, they bounced off harmlessly. And the Roller had no difficulty, at that distance, in moving aside from those that came near it.

Besides, his arm was tiring badly. He ached all over from sheer weariness. If he could only rest a while without having to duck rocks from that catapult at regular intervals of maybe thirty seconds each—

He stumbled back to the rear of the arena. Then he saw even that wasn't any good. The rocks reached back there, too, only there were longer intervals between them, as though it took longer to wind up the mechanism, whatever it was, of the catapult.

Wearily he dragged himself back to the barrier again. Several times he fell and could

barely rise to his feet to go on. He was, he knew, near the limit of his endurance. Yet he didn't dare stop moving now, until and unless he could put that catapult out of action. If he fell asleep, he'd never wake up.

One of the stones from it gave him the glimmer of an idea. It struck upon one of the piles of stones he'd gathered together near the barrier to use as ammunition, and it struck sparks.

Sparks. Fire. Primitive man had made fire by striking sparks, and with some of those dry crumbly bushes as tinder—

Luckily, a bush of that type was near him. He broke it off, took it over to the pile of stones, then patiently hit one stone against another until a spark touched the punklike wood of the bush. It went up in flames so fast that it singed his eyebrows and was burned to an ash within seconds.

But he had the idea now, and within minutes he had a little fire going in the lee of the mound of sand he'd made digging the hole an hour or two ago. Tinder bushes had started it, and other bushes which burned, but more slowly, kept it a steady flame.

The tough wirelike tendrils didn't burn readily; that made the fire-bombs easy to make and throw. A bundle of faggots tied about a small stone to give it weight and a loop of the tendril to swing it by.

He made half a dozen of them before he lighted and threw the first. It went wide, and the Roller started a quick retreat, pulling the catapult after him. But Carson had the others ready and threw them in rapid succession. The fourth wedged in the catapult's frame work, and it did the trick. The Roller tried desperately to put out the spreading blaze by throwing sand, but its clawed tentacles would take only a spoonful at a time and his efforts were ineffectual. The catapult burned.

The Roller moved safely away from the fire and seemed to concentrate its attention on Carson and again he felt that wave of hatred and nausea. But more weakly; either the Roller itself was weakening or Carson had learned how to protect himself against the mental attack.

He thumbed his nose at it and then sent it scuttling back to safety by throwing a stone. The Roller went clear to the back of its half of the arena and started pulling up bushes again. Probably it was going to make another catapult.

Carson verified—for the hundredth time

—that the barrier was still operating, and then found himself sitting in the sand beside it because he was suddenly too weak to stand up.

His leg throbbed steadily now and the pangs of thirst were severe. But those things paled beside the utter physical exhaustion that gripped his entire body.

And the heat.

Hell must be like this, he thought. The hell that the ancients had believed in. He fought to stay awake, and yet staying awake seemed futile, for there was nothing he could do. Nothing, while the barrier remained impregnable and the Roller stayed back out of range.

But there must be *something*. He tried to remember things he had read in books of archaeology about the methods of fighting used back in the days before metal and plastic. The stone missile, that had come first, he thought. Well, that he already had.

The only improvement on it would be a catapult, such as the Roller had made. But he'd never be able to make one, with the tiny bits of wood available from the bushes —no single piece longer than a foot or so. Certainly he could figure out a mechanism for one, but he didn't have the endurance left for a task that would take days.

Days? But the Roller had made one. Had they been here days already? Then he remembered that the Roller had many tentacles to work with and undoubtedly could do such work faster than he.

And besides, a catapult wouldn't decide the issue. He had to do better than that.

Bow and arrow? No; he'd tried archery once and knew his own ineptness with a bow. Even with a modern sportsman's dura-steel weapon, made for accuracy. With such a crude, pieced-together outfit as he could make here, he doubted if he could shoot as far as he could throw a rock, and knew he couldn't shoot as straight.

Spear? Well, he *could* make that. It would be useless at any distance, but would be a handy thing at close range, if he ever got to close range.

And making one would give him something to do. Help keep his mind from wandering, as it was beginning to do. Sometimes now, he had to concentrate a while before he could remember why he was here, why he had to kill the Roller.

Luckily he was still beside one of the piles of stones. He sorted through it until he found one shaped roughly like a spear-head. With a smaller stone he began to

chip it into shape, fashioning sharp shoulders on the sides so that if it penetrated it would not pull out again.

Like a harpoon? There was something in that idea, he thought. A harpoon was better than a spear, maybe, for this crazy contest. If he could once get it into the Roller, and had a rope on it, he could pull the Roller up against the barrier and the stone blade of his knife would reach through that barrier, even if his hands wouldn't.

The shaft was harder to make than the head. But by splitting and joining the main stems of four of the bushes, and wrapping the joints with the tough but thin tendrils, he got a strong shaft about four feet long, and tied the stone head in a notch cut in the end.

It was crude, but strong.

And the rope. With the thin tough tendrils he made himself twenty feet of line. It was light and didn't look strong, but he knew it would hold his weight and to spare. He tied one end of it to the shaft of the harpoon and the other end about his right wrist. At least, if he threw his harpoon across the barrier, he'd be able to pull it back if he missed.

Then when he had tied the last knot and there was nothing more he could do, the heat and the weariness and the pain in his leg and the dreadful thirst were suddenly a thousand times worse than they had been before.

He tried to stand up, to see what the Roller was doing now, and found he couldn't get to his feet. On the third try, he got as far as his knees and then fell flat again.

"I've got to sleep," he thought. "If a showdown came now, I'd be helpless. He could come up here and kill me, if he knew. I've got to regain some strength."

Slowly, painfully, he crawled back from the barrier. Ten yards, twenty—

The jar of something thudding against the sand near him waked him from a confused and horrible dream to a more confused and more horrible reality, and he opened his eyes again to blue radiance over blue sand.

How long had he slept? A minute? A day?

Another stone thudded nearer and threw sand on him. He got his arms under him and sat up. He turned around and saw the Roller twenty yards away, at the barrier.

It rolled away hastily as he sat up, not

stopping until it was as far away as it could get.

He'd fallen asleep too soon, he realized, while he was still in range of the Roller's throwing ability. Seeing him lying motionless, it had dared come up to the barrier to throw at him. Luckily, it didn't realize how weak he was, or it could have stayed there and kept on throwing stones.

Had he slept long? He didn't think so, because he felt just as he had before. Not rested at all, no thirstier, no different. Probably he'd been there only a few minutes.

He started crawling again, this time forcing himself to keep going until he was as far as he could go, until the colorless, opaque wall of the arena's outer shell was only a yard away.

Then things slipped away again—

When he awoke, nothing about him was changed, but this time he knew that he had slept a long time.

The first thing he became aware of was the inside of his mouth; it was dry, caked. His tongue was swollen.

Something was wrong, he knew, as he returned slowly to full awareness. He felt less tired, the stage of utter exhaustion had passed. The sleep had taken care of that.

But there was pain, agonizing pain. It wasn't until he tried to move that he knew that it came from his leg.

He raised his head and looked down at it. It was swollen terribly below the knee, and the swelling showed even halfway up his thigh. The plant tendrils he had used to tie on the protective pad of leaves now cut deeply into the swollen flesh.

To get his knife under that imbedded lashing would have been impossible. Fortunately, the final knot was over the shin bone, in front, where the vine cut in less deeply than elsewhere. He was able, after an agonizing effort, to untie the knot.

A look under the pad of leaves told him the worst. Infection and blood poisoning, both pretty bad and getting worse.

And without drugs, without cloth, without even water, there wasn't a thing he could do about it.

Not a thing, except *die*, when the poison had spread through his system.

He knew it was hopeless, then, and that he'd lost.

And with him, humanity. When he died here, out there in the universe he knew, all his friends, everybody, would die too. And Earth and the colonized planets would be the home of the red, rolling, alien Outsiders.

Creatures out of nightmare, things without a human attribute, who picked lizards apart for the fun of it.

It was the thought of that which gave him courage to start crawling, almost blindly in pain, toward the barrier again. Not crawling on hands and knees this time, but pulling himself along only by his arms and hands.

A chance in a million, that maybe he'd have strength left, when he got there, to throw his harpoon-spear just *once*, and with deadly effect, if—on another chance in a million—the Roller would come up to the barrier. Or if the barrier was gone, now.

It took him years, it seemed, to get there.

The barrier wasn't gone. It was as impassable as when he'd first felt it.

And the Roller wasn't at the barrier. By raising up on his elbows, he could see it at the back of its part of the arena, working on a wooden framework that was a half-completed duplicate of the catapult he'd destroyed.

It was moving slowly now. Undoubtedly it had weakened, too.

But Carson doubted that it would ever need that second catapult. He'd be dead, he thought, before it was finished.

If he could attract it to the barrier, now, while he was still alive—He waved an arm and tried to shout, but his parched throat would make no sound.

Or if he could get through the barrier—

His mind must have slipped for a moment, for he found himself beating his fists against the barrier in futile rage, and made himself stop.

He closed his eyes, tried to make himself calm.

"Hello," said a voice.

It was a small, thin voice. It sounded like—

He opened his eyes and turned his head. It was a lizard.

"Go away," Carson wanted to say. "Go away; you're not really there, or you're there but not really talking. I'm imagining things again."

But he couldn't talk; his throat and tongue were past all speech with the dryness. He closed his eyes again.

"Hurt," said the voice. "Kill. Hurt—kill. Come."

He opened his eyes again. The blue ten-legged lizard was still there. It ran a little way along the barrier, came back, started off again, and came back.

"Hurt," it said. "Kill. Come."

Again it started off, and came back. Obviously it wanted Carson to follow it along the barrier.

He closed his eyes again. The voice kept on. The same three meaningless words. Each time he opened his eyes, it ran off and came back.

"Hurt. Kill. Come."

Carson groaned. There would be no peace unless he followed the blasted thing. Like it wanted him to.

He followed it, crawling. Another sound, a high pitched squealing, came to his ears and grew louder.

There was something lying in the sand, writhing, squealing. Something small, blue, that looked like a lizard and yet didn't—

Then he saw what it was—the lizard whose legs the Roller had pulled off, so long ago. But it wasn't dead; it had come back to life and was wriggling and screaming in agony.

"Hurt," said the other lizard. "Hurt. Kill. Kill."

Carson understood. He took the flint knife from his belt and killed the tortured creature. The live lizard scurried off quickly.

Carson turned back to the barrier. He leaned his hands and head against it and watched the Roller, far back, working on the new catapult.

"I could get that far," he thought, "if I could get through. If I could get through, I might win yet. It looks weak, too. I might—"

And then there was another reaction of black hopelessness, when pain sapped his will and he wished that he were dead. He envied the lizard he'd just killed. It didn't have to live on and suffer. And he did. It would be hours, it might be days, before the blood poisoning killed him.

If only he could use that knife on himself—

But he knew he wouldn't. As long as he was alive, there was the millionth chance—.

He was straining, pushing on the barrier with the flat of his hands, and he noticed his arms, how thin and scrawny they were now. He must really have been here a long time, for days, to get as thin as that.

How much longer now, before he died? How much more heat and thirst and pain could flesh stand?

For a little while he was almost hysterical again, and then came a time of deep calm, and a thought that was startling.

The lizard he had just killed. *It had*

*crossed the barrier, still alive.* It had come from the Roller's side; the Roller had pulled off its legs and then tossed it contemptuously at him and it had come through the barrier. He'd thought, because the lizard was dead.

But it hadn't been dead, it had been unconscious.

A live lizard couldn't go through the barrier, but an unconscious one could. The barrier was not a barrier, then, to living flesh, but to conscious flesh. It was a *mental* projection, a *mental* hazard.

And that thought, Carson started crawling along the barrier to make his last desperate gamble. A hope so forlorn that only a dying man would have dared try it.

No use weighing the odds of success. Not when, if he didn't try it, those odds were infinitely to zero.

He crawled along the barrier to the dune of sand, about four feet high, which he'd scooped out in trying—how many days ago?—to dig under the barrier or to reach water.

That mound was right at the barrier, its farther slope half on one side of the barrier, half on the other.

Taking with him a rock from the pile nearby, he climbed up to the top of the dune and over the top, and lay there against the barrier, his weight leaning against it so that if the barrier were taken away he'd roll on down the short slope, into the enemy territory.

He checked to be sure that the knife was safely in his rope belt, that the harpoon was in the crook of his left arm and that the twenty-foot rope fastened to it and to his wrist.

Then with his right hand he raised the rock with which he would hit himself on the head. Luck would have to be with him on that blow; it would have to be hard enough to knock him out, but not hard enough to knock him out for long.

He had a hunch that the Roller was watching him, and would see him roll down through the barrier, and come to investigate. It would think he was dead, he hoped—he thought it had probably drawn the same deduction about the nature of the barrier that he had drawn. But it would come cautiously. He would have a little time—

He struck.

Pain brought him back to consciousness. A sudden, sharp pain in his hip that was different from the throbbing pain in his head and the throbbing pain in his leg.

But he had, thinking things out before he had struck himself, anticipated that very pain, even hoped for it, and had steeled himself against awakening with a sudden movement.

He lay still, but opened his eyes just a slit, and saw that he had guessed rightly. The Roller was coming closer. It was twenty feet away and the pain that had awakened him was the stone it had tossed to see whether he was alive or dead.

He lay still. It came closer, fifteen feet away, and stopped again. Carson scarcely breathed.

As nearly as possible, he was keeping his mind a blank, lest its telepathic ability detect consciousness in him. And with his mind blanked out that way, the impact of its thoughts upon his mind was nearly soul-shattering.

He felt sheer horror at the utter *alienness*, the *differentness* of those thoughts. Things that he felt but could not understand and could never express, because no terrestrial language had words, no terrestrial mind had images to fit them. The mind of a spider, he thought, or the mind of a praying mantis or a Martian sand-serpent, raised to intelligence and put in telepathic rapport with human minds, would be a homely familiar thing, compared to this.

He understood now that the Entity had been right: Man or Roller, and the universe was not a place that could hold them both. Farther apart than god and devil, there could never be even a balance between them.

Closer. Carson waited until it was only feet away, until its clawed tentacles reached out—

Oblivious to agony now, he sat up, raised and flung the harpoon with all the strength that remained to him. Or he thought it was all; sudden final strength flooded through him, along with a sudden forgetfulness of pain as definite as a nerve block.

As the Roller, deeply stabbed by the harpoon, rolled away, Carson tried to get to his feet to run after it. He couldn't do that; he fell, but kept crawling.

It reached the end of the rope, and he was jerked forward by the pull on his wrist. It dragged him a few feet and then stopped. Carson kept on going, pulling himself toward it hand over hand along the rope.

It stopped there, writhing tentacles trying in vain to pull out the harpoon. It seemed to shudder and quiver, and then it must have realized that it couldn't get away, for

it rolled back toward him, clawed tentacles reaching out.

Stone knife in hand, he met it. He stabbed, again and again, while those horrid claws ripped skin and flesh and muscle from his body.

He stabbed and slashed, and at last it was still.

A bell was ringing, and it took him a while after he'd opened his eyes to tell where he was and what it was. He was strapped into the seat of his scouter, and the visiplate before him showed only empty space. No Outsider ship and no impossible planet.

The bell was the communications plate signal; someone wanted him to switch power into the receiver. Purely reflex action enabled him to reach forward and throw the lever.

The face of Brander, captain of the *Magellan*, mother-ship of his group of scouters, flashed into the screen. His face was pale and his black eyes glowing with excitement.

"*Magellan* to Carson," he snapped. "Come on in. The fight's over. We've won!"

The screen went blank; Brander would be signaling the other scouters of his command.

Slowly, Carson set the controls for the return. Slowly, unbelievingly, he unstrapped himself from the seat and went back to get a drink at the cold-water tank. For some reason, he was unbelievably thirsty. He drank six glasses.

He leaned there against the wall, trying to think.

*Had it happened?* He was in good health, sound, uninjured. His thirst had been mental rather than physical; his throat hadn't been dry. His leg—

He pulled up his trouser leg and looked at the calf. There was a long white scar there, but a perfectly healed scar. It hadn't been there before. He zipped open the front of his shirt and saw that his chest and abdomen were criss-crossed with tiny, almost unnoticeable, perfectly healed scars.

*It had happened.*

The scouter, under automatic control, was already entering the hatch of the mother-ship. The grapples pulled it into its individual lock, and a moment later a buzzer indicated that the lock was air-filled. Carson opened the hatch and stepped outside, went through the double door of the lock.

He went right to Brander's office, went in, and saluted.

Brander still looked dizzily dazed. "Hi, Carson," he said. "What you missed; What a show!"

"What happened, sir?"

"Don't know, exactly. We fired one salvo, and their whole fleet went up in dust! Whatever it was jumped from ship to ship in a flash, even the ones we hadn't aimed at and that were out of range! The whole fleet disintegrated before our eyes, and we didn't get the paint of a single ship scratched!"

"We can't even claim credit for it. Must have been some unstable component in the

metal they used, and our sighting shot just set it off. Man, oh man, too bad you missed all the excitement."

Carson managed to grin. It was a sickly ghost of a grin, for it would be days before he'd be over the mental impact of his experience, but the captain wasn't watching, and didn't notice.

"Yes, sir," he said. Common sense, more than modesty, told him he'd be branded forever as the worst liar in space if he ever said any more than that. "Yes, sir, too bad I missed all the excitement."

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# Boomerang

By Harry Walton

*A queerly mixed duel it was—sharp wits and hate; foolproof, fool-protecting electronic relays and synthetically induced phobias. And one duelist had a very pretty scheme to fool the foolproof—*

CARNER got us in by showing a card, and the sharp-faced chap at the door led us to a table near the teleport. It was one of the better speaks, which was why it could afford a private installation. Of course, a teleport paid for itself in a place like this, which most pillars of society would rather not be seen coming to or leaving. If you were on the City Enforcement League, like Samuel Sporn, it was especially nice to be able to enter a cubicle in your apartment and step out here with none the wiser.

While we waited for Sporn, Carner ordered neoprenzine. I took a Martini and kept watching the teleport. There wasn't any operator, as there was in the regular public installations. You stepped in, dialed the number of the station nearest your apartment, and—zing—you were there, cold sober. Just why, nobody had figured out yet, but teleport transmission straightened you up after any number of drinks. It left no hangover.

If you were too drunk to dial properly, or tried to dial a private number, the beam stayed off and you got nowhere. Unless, like Sporn, you had a private installation at home. Then you didn't dial, but held a little polarized disk over a sensitive plate in the

cubicle, which tuned your number automatically.

Carner finished his drink and turned to watch the cubicle with me, his thin, sour face wearing a smug look, as though he'd finally thought of a way to get the better of Sporn. It was Carner who had arranged this evening get-together, for what reason I didn't yet know. He'd insisted we meet here instead of going up to Sporn's place.

I found the teleport easier to watch than Carner's face, which wasn't a nice one at any time. The sliding door was shut, of course, and the transmission light was out. I amused myself by guessing just what instant Sporn would show up.

And then he did. The green light flashed, electronic relays did their work, and with a click the door slid open to let Sporn step out. His fat, clean-shaven face creased into a grin at sight of us.

"Right on time, hey?" he bellowed, easing his enormous bulk into a chair. "Great gadgets, those things. Wouldn't be without mine." He tapped the dialing disk that he wore on a strap on his wrist. Although he hadn't had his own installation long, he was as proud of it as a kid of his first plane.

"Mr. Sporn! Happy to have you." The

manager had pussyfooted over and was trying to dislocate his neck bowing. "If I'd known, I would have prepared a private booth. The visiphone operator only told me now that you were coming. I trust there was no delay in opening our teleport to you. We must be careful, you know."

"Everything's O.K.," said Sporn. "Show us that booth, hey?"

The fellow did, and left us. A waiter brought adhymal for the other two, a second Martini for me. Sporn took his drink down fast, lit a cigar, and turned his piglike little eyes on Carner.

"Well, Jimmy, let's have it. Sam's waiting. You know Sam'll do anything he can for an old friend."

Talking about himself in the third person was Sporn's idea of whimsy. So was calling Carner "Jimmy." I don't think James Carner was called that even as a kid, and Sporn knew he hated it.

"In that case," Carner said bitterly, "you might go kill yourself."

Sporn chuckled and waved the cigar. "To save you the trouble, Jimmy? Sorry. But I like the way you come right out and say things. Not like Ed here, who hates me almost as much as you do but is too cursed polite to say so."

I didn't bother to contradict him. Carner, though, was already losing what little good humor he'd had. His lean face was purpling, as it always did under Sporn's elephantine humor.

"Never mind about Ed," he said. "I'd have killed you legally myself before this, if you hadn't gotten yourself declared 4F."

"I got myself declared?" Sporn's eyebrows shot up in pretended surprise. "Man, I've got a nerve block. The psychos say so. Is it my fault you can't call me out?"

"I'll kill you in the end, legally or not." Carner's voice was flat and cold with hatred. It held a sincerity that was like an oath. I began to tighten up inside as I always do when talk turns on killing. Then, knowing what my conditioned reflexes were doing, Sporn turned to me.

"He wants to kill me. Why? For developing Sodorite and making him rich. He thinks you two could have done it alone. The thanks I get!"

"Maybe you'd get more," I told him, "if you'd been satisfied with less than fifty-one percent of the shares. And maybe we could have done it alone."

The cigar came out of his mouth, held by two sausagelike fingers. "Done it alone?

You didn't know what you'd found, and Jimmy didn't see what could be done with what he took from you. You two were playing for pennies with a million-credit stack. It was lucky for you I cut myself in." Sporn looked from me to Carner, grunted, and stuck the cigar contentedly back into his face.

Carner tensed his hands on the table. "I want it back, Sam. All the shares you tricked me out of. I'll kill you for them if I have to."

What with all this talk of killing, my stomach was churning the way a 4F's will. It didn't help any, either, that I was full of the old futile rage at hearing these two bicker over what they'd stolen from me. If I'd been normal, I would have stood up and smeared them both all over the floor. But I wasn't. I had to sit tight and watch Sporn chew the cigar over to one side of his face to talk around it.

"So I tricked you out of half of what you'd tricked Ed out of. All right, I was smart. If I'd been smarter, I'd have had you psychoed the way you did Ed. A pre-conditioned man doesn't go around wanting to kill his friends—or even his enemies."

Suddenly Sporn laughed again, his chins quaking with this return of his good humor. "You can be glad this is 1990, Jimmy. Fifty years ago, when you made an enemy, it was just too bad. Today you put a psychodynamotor near his room. While he sleeps, it jerks his reflexes around so that even legal killing turns his stomach forever after. It doesn't leave him guts enough to slap your face. Sure, I wish I'd done it with you. You wouldn't be wanting to kill me out now."

That was the last straw and all I could stand. My insides were heaving. I got up while the two of them looked at me with curiously similar smirks on their faces—the same sly contempt that men and even women show when they know you're a conditioned 4F. I went to the washroom. There I got rid of the drinks, but not of what Sporn had said.

It was all true. I hadn't suspected until that time I'd tried to smash Carner's face for him the day I learned Sodorite wasn't mine any more. I stood there, fist drawn back ridiculously and shaking like an epileptic—and couldn't hit him. He knew that. He didn't put a hand up to protect himself.

"You'll never be able to harm me, Ed. Don't think you can get counter-treatment,

## ASTOUNDING SCIENCE-FICTION

either. The conditioning was postexclusive. You can't be psychoed out of it."

He was right, as I found out. How he'd managed to get a psychodynamotor I never learned—I imagine the skids were well greased with hundred-credit notes. At any rate, it did the job he wanted done. I had to resign myself to being a 4F for life.

It wasn't bad except when the talk turned on legal dueling or other violent death. My stomach went queasy at such times.

When my yearly psycho-health check showed up my condition, I went down on the tapes as a conditioned 4F, the same as anybody who takes the treatment voluntarily to escape a challenge or involuntarily because the psychos order it. Should anybody try to call me out, the dueling permit would be refused, because I wouldn't have a chance. A conditioned 4F will stand still while his opponent takes pot shots at him. He has an abnormal regard for human life. It was literally impossible for me to do bodily harm to anyone, even Carner. And it's a queer thing to hate somebody as I did him and still be incapable of so much as punching him in the nose.

I'd stayed with him, though, when he offered me three percent of the Sodorite shares to help develop my own discovery. You don't synthesize a new germicidal radio-active every day. I wanted to stick around as much to see it come into its own as to get the sop Carner offered me.

But just now I cursed Sodorite along with him and Sporn. In the washroom mirror I looked as bad as I felt. I had a seltzer from the drinking fountain and then found there was a bracer sun lamp in the place. After five minutes under it I felt better enough to go back to the table.

I'd hoped the conversation would take a new turn while I was away, but Carner's first words showed it hadn't.

"Waive your exemption, Sam, and I'll meet you legally, each of us taking his chance on killing or being killed. The survivor takes the other's shares."

"Uh-uh. You're younger, Jimmy. Chances are all on your side. Besides, why should I risk a duel? I've got enough, with fifty-one percent."

"I was only giving you your chance," grated Carner. "Since you won't take a fair risk in legal combat, I'll kill you illegally."

"That," said Sporn with an injured air, "would be murder. And very hard to do besides. On top of which, it wouldn't pay, because I'm going to send Donstetter a

note tonight. This will suggest that you be psychoed if anything queer happens to me. Which," he finished with an expansive sweep of his cigar, "I'm sure it won't."

"Covered yourself all around, haven't you?" sneered Carner. "But you've forgotten one place you can be hit—your greed. That's what I'm attacking. I'll make you a bet—a bet you can't afford to pass up—that I'll kill you illegally within five days and go scot-free."

Sporn's underlip stuck out, enormous with doubt. "Now wouldn't I be an ultra-fool to bet on that, Jimmy?"

"No, because it's the only way to get what you really want—my shares in Sodorite. That talk about having enough doesn't fool me. You want mine the same as I want yours. Well, my plan gives us both our chance, and I'm willing to give you the odds."

"What are they?" asked Sporn, and suddenly all the chuckle was gone from his voice.

As though this was the moment he'd been waiting for, Carner drew a deep breath. "I'll give you a full transfer of my shares, effective immediately. You'll give me a transfer of all the shares you hold, but one to be effective only at your death. I can't even file that transfer while you're alive. You, on the other hand, can record my transfer tomorrow and take full possession of Sodorite as soon as it goes through, five days from now. If you're alive. If I've killed you, I get my own shares back along with yours. But if you're alive, you can invalidate the transfer you gave me, and you'll have won."

It was the craziest thing I'd ever heard, and the craziest part of it was that Carner was in deadly earnest. He was breathing fast, his lean face was unhealthily flushed, and his eyes burned with eagerness.

And Sporn? He was as cool as though this were a directors' meeting. Suspicious, too. I could see him weighing Carner's craziness against the possibilities of a trick. He tore the wrapper off a new cigar very slowly, stuck it between his lips, and lit it carefully. Carner and I were both hanging on his next words.

"How do you know I won't invalidate my transfer tomorrow morning instead of five days from now?" he asked Carner suddenly.

"That's a chance I take, but I don't think you will. I'd have Ed here as a witness to our agreement. Although it's an illegal one, it would serve to contest any transfer to

you. You might or might not win in the courts, but if you play it through, you stand a fair chance of winning everything in five days."

The human mind is a queer thing, especially when tampered with. I wasn't sick now. Maybe the session in the washroom had something to do with that. Maybe I didn't take Carner's crazy talk seriously. I know I didn't believe he could kill Sporn, who was shrewd enough to protect himself from all angles. But I hoped Carner would overreach himself and lose everything to Sporn, which would give me revenge of a sort. After all, it was Carner who'd taken Sodorite from me.

Maybe Sporn was thinking the same way. He looked at me and chuckled.

"The trouble is, Jimmy, that the risk isn't fifty-fifty the way you want things. I'll take you on, but on my own terms."

"What are they?" asked Carner in a voice that croaked with excitement.

"Well, first of all, we make Ed stakeholder. I don't want a transfer direct from you, Jimmy. Might raise questions afterward. My way's safer for you, too."

He pulled a stylus and a foil pad from his pocket, set the thing to write in duplicate, and after scribbling a few words passed me both sheets. It was a legal enough transfer, effective five days from date, of all Sodorite shares I owned in excess of three percent. But the place where the transferee's name should have been was blank, and followed by the words "provided he be then living, and that if he be not, this instrument shall be void."

Sporn gave me the stylus. My hatred of Carner made my fingers shake as I signed both sheets.

I thought Sporn would keep them. To my surprise he gave Carner one and stuck the other in his pocket.

"Hold on," I said. "I can't deed everything to both of you at the same time. Which of you files his transfer five days from now?"

"Why," answered Sporn, "the one that's still alive, of course."

It was that simple, that deadly I should have known what Sporn intended, but hoping to see Carner bested I'd been blind. Suddenly my conditioning was to the fore again. I'd have been glad to see Carner wiped out financially, but this was different. If it went through, he or Carner had to die. I trembled in every nerve while waiting for Carner to turn it down.

He would, of course. The odds were all on Sporn's side. He couldn't be challenged legally, and Carner would run terrible risks in trying to kill him illegally. Forewarned as he was, Sporn would surround himself with safeguards ranging from paid bodyguards to electronic detectors.

But Carner could be called out. Within twenty-four hours some paid killer would challenge him, and as Carner had fought duels in the past, he couldn't refuse a meeting now. It would be altogether legal, and Sporn wouldn't appear in it at all. Even so, he meant to protect himself by getting Carner's stock through me. The whole thing was transparently one-sided. Carner wouldn't dare go through with it.

His face was blotchy with color and his tongue licked his lips again and again. His voice was a harsh croak.

"That's all right with me."

"Good!" Sporn was all grins once more. "We'll call Donstetter and transfer our shares to Ed right now. He can't touch them until the transfer goes through, five days from now. By then the winner can record Ed's transfer to him."

You could see he figured himself as the winner. So did Carner. But both of them couldn't win. The real stakes here were death. I sat stunned until Sporn reached for the telephone.

"This has gone far enough. You can do what you like, but I want out," I said. "Give me back those transfers."

Sporn just grinned at me and dialed a number. I grabbed the telephone and tried to pull it away from him. His hamlike fist didn't give him an inch. The only way to stop him was to hit him, and I couldn't do that.

Donstetter, the firm's attorney, appeared on the visiplate. He looked only mildly surprised at this night call. I tried to press the cut-off button, but Carner slapped my hand away.

"Put this on a record tape," Sporn said. "Stock transfer, dated today, April 10, 1990. For value received, I transfer this day all shares of Sodorite Synthetic standing in my name to Edward Lewis, and in evidence attach my fingerprint signature."

He laid his thumb on the visiplate, then turned the telephone over to Carner, who went through the same formula. Donstetter acknowledged record and the thing was done. For five days I owned all of Sodorite. But what I'd heard made me sick in every nerve.

"You can't go through with this," I told them. "You can't. I'll do anything to stop it. I'll denounce you both to the dueling commission. I'll refuse transfer of the stock."

It was a puerile gesture, and I knew it. Actually, I'd never have possession of the stock. I was merely a straw man, and they already had my signature.

Sporn grinned and got up. "Since we'd both deny everything, Ed, the commission couldn't act. Better go home and sleep it off." He left the booth. I followed him as he headed for the teleport. Somehow I knew Carner was coming after me.

When he reached the sliding door of the cubicle, Sporn paused just long enough to hitch the tuning disk around under his wrist. The number gleamed dully on it—64299. Inside it, that same number was indelibly etched on its molecules. I thought of that when I should have been acting, instead, to prevent murder. I even found myself wondering who had the next number, the one ending in 300.

Then the door slid shut behind Sporn and a lock clicked inside. Through the plastic window Carner and I watched him sit down in the transmission chair—Carner staring at him with the whole intensity of his hate in his sunken eyes. I remember how Sporn waved the cigar as he held the tuning disk over a plastic-ringed receptor plate on the arm of the chair.

He was already unreachable. The door had automatically locked behind him. Relays simultaneously made it impossible for anyone to be routed to this cubicle until he was gone. Electronic nerve centers were feeling out into space for a signal that would be emitted if anybody was at this moment in the destination cubicle at Sporn's home. If no such signal interfered, transmission would occur.

Over us the green light flashed. The booth was empty.

Something clawed my wrist—Carner's fingers. He pulled me away to a secluded table. Sporn was beyond my reach, but I thought I might still influence Carner. His skinny face was redder than ever, his eyes more than half mad. A waiter came and he ordered several drinks.

"You know what you've done?" I asked him. "You've just about committed suicide—you're the one in danger, not Sporn."

He stared at me until I thought he'd burst out laughing—or crying. Then he swallowed his drink in one gulp.

I said bitterly: "I shouldn't care. I wouldn't if I were normal. But I do and it's worse because you tricked me into being a party to it. Maybe I can talk to Sam and call it off. Give me that transfer and I'll try."

Carner laughed. He sounded half drunk, half crazy.

"Look!" he said. "Sam never knew I had this. I got it just after he got his."

He fished clumsily in a pocket. Finally he brought out a short length of Monel chain. It had a catch and a tuning disk on it, and the number was 64300.

"All right, you've got a private teleport too," I said when my first surprise was over. "That has nothing to do with it."

He gulped down the third drink in three minutes and called the waiter. I waited impatiently while more drinks were brought.

"Don't you see" I pleaded. "The way things stand, you've got to kill Sam or he'll kill you. And it'll probably be you."

He shook his head owlishly. "I don't have to kill Sporn. Ever." He cackled drunkenly. "And he can't touch me. Know why?"

"He can hire a dozen men to call you out for him."

"Not any more. But I wouldn't kill him. Never meant to. Killing's illegal. You wouldn't kill anybody, would you, Ed? Not even me!"

I saw it was useless and got up to leave. Carner wasn't used to liquor as Sporn was; he was hitting the skids fast. It was no use talking to him tonight. Tomorrow might be too late, but I couldn't help that.

His skinny hand grabbed me again. "Sit down. You want to know about Sam? I'll tell you. Funny. You hate me but I can trust you. Even if you knew I did murder, you wouldn't tell, would you, Ed? You wouldn't tell, because they'd execute me. That would be two killings. No, you wouldn't tell."

He paused for another drink. I'd never seen him this way.

"Know how a teleport works?" he went on. "When you dial a public number wrong, nothing happens. On a private one, you aren't beamed out until the subscriber has seen you on the telephone and accepts transmission. Everything is checked to protect you. But tuning disks can't dial wrong, and only subscribers have them, for their own stations. So the beam goes on without any check."

"Once I read about an experiment they

tried back in '79. Two receiving booths were tuned alike. They transmitted a rabbit, thinking they'd get two rabbits. But they never got any. When two receivers are tuned alike, the beam splits to both. The rabbit's still out there—somewhere."

He paused and let the next drink pour down his throat, while I sat staring at him with a seed of horror sprouting in my brain.

"You get it now, don't you?" he chuckled. "I got friendly with the technicians who installed my station. They showed me the tuning assembly. Before I came here tonight I loosened three setscrews and turned three dials—to 299 instead of 300."

He leered drunkenly at me, enormously proud of what he'd done. I got to my feet somehow, wanting only to get away and stifle the sickness that was welling up in me.

Again his fingers clawed me back. "Hold on, Ed. I haven't killed Sam, *because he isn't dead*. He's just as alive as when he traveled here tonight from his own station to that one over there. He was transmitted as a bundle of ultrashort electromagnetic waves. That's what the technicians told me. And that's what he is right now. Can you imagine Sam as a bundle of waves? Maybe he'll meet the rabbit."

With shaking fingers he tried to pour my untouched drink into his glass. The stuff spilled and made rivulets on the table.

"You got to be smart to beat Sam. Well, I was smart," he went on. "Once I set my station back to my own number, there's nothing to tie me to his disappearance. Why, we all saw him leave here alive. Plenty of witnesses to that. Besides that. I didn't kill Sam, because he isn't dead. He isn't dead! Makes you think you could have done it yourself, doesn't it, Ed?"

Strange how his drunken logic soothed me. It was true enough, in a way. If Sporn hadn't been received, he still existed in the form of unconverted energy, and in that form was virtually immortal. His body had simply been changed into so many kilovolt amperes of radiation. But it hadn't been killed. His soul hadn't been torn from its body; his body had simply been whisked away from his soul, cleanly, bloodlessly. Death hadn't touched him, and he was beyond death.

But he hadn't been killed. Even I could have done it.

The waiter brought more drinks and I watched Carner swallow them. I thought

how useless all Sporn's cunningly intended safeguards had been. The note he'd undoubtedly planned to send Donstetter this very night—to cheat Carner if by long chance it was he who won. My own transfer back to him of the Sodorite shares—that had gone with him. That was now part of the bundle of waves that was Sporn. Only the transfer Carner had on him remained.

Carner hadn't talked much more, or if he had, I hadn't heard him. Now he was completely out. A waiter noticed it at last and looked him over with an experienced eye.

"He'd had his share. Friend of yours?"

"Not exactly," I said. "Not enough for me to bother to take him home."

The man sighed "Give me his address and we'll take care of him."

"That should be easy," I said, trying to keep a tremor out of my voice. "He was bragging about his private teleport earlier this evening. He even took the disk off to show me, and then put it back in his pocket instead of on his wrist, he was that drunk."

The waiter patted Carner's clothing expertly. In a matter of seconds he found the disk and strapped it on Carner's left wrist. I sat watching and pinching down my nerves while two men lifted his inert form gently. They carried him into the teleport and propped him in the chair. One of them laid his wrist, with the dial under it, on top of the receptor plate.

They stepped out and closed the door.

I jumped up as if springs had been cut loose inside me. I stood trembling and praying and swearing deep down inside.

The green light flashed. One man looked in the window, nodded, and turned away.

Suddenly I was rock calm. Transmitted by teleport, Carner should have arrived home cold sober and in shape to take a call. I got a telephone and dialed his number. A voice answered right away.

"James Carner is not in. He expects to return about 21:20 Thursday time. James Carner is not in. He expects—"

The automatic voice would have gone on, but I touched the cutoff button. Carner had expected to return home, but not by teleport. He must have known he wouldn't be received if no station was tuned to his number.

But he'd had a disk, and the transmitter had tuned automatically to a nonexistent 64300. There was no check on disk dialing.

I owned all of Sodorite again.

# Endowment Policy

## By Lewis Padgett

*The old gentleman really did want to give the young man driving the taxi a present. He wanted to give him the world, freely and without strings. With a reason, though—*

WHEN Denny Holt checked in at the telephone box, there was a call for him. Denny wasn't enthusiastic. On a rainy night like this, it was easy to pick up fares, and now he'd have to edge his cab uptown to Columbus Circle.

"Nuts," he said into the mouthpiece. "Why me? Send one of the other boys; the guy won't know the difference. I'm way down in the Village."

"He wants you, Holt. Asked for you by name and number. Probably a friend of yours. He'll be at the monument—black overcoat and a cane."

"Who is he?"

"How should I know? He didn't say. Now get going."

Holt disconsolately hung up and went back to his cab. Water trickled from the visor of his cap; rain streaked the windshield. Through the dimout he could see faintly lighted doorways and hear juke-box music. It was a good night to be indoors. Holt considered the advisability of dropping into the Cellar for a quick rye. Oh, well. He meshed the gears and headed up Christopher Street, feeling low.

Pedestrians were difficult to avoid these days; New Yorkers never paid any attention to traffic signals anyway, and the dimout made the streets dark, shadowy canyons. Holt drove uptown, ignoring cries of "Taxi." The street was wet and slippery. His tires weren't too good, either.

The damp cold seeped into Holt's bones. The rattling in the engine wasn't comforting. Some time soon the old bus would break down completely. After that—well, it was easy to get jobs, but Holt had an aversion to hard work. Defense factories—*hm-m-m*.

Brooding, he swung slowly around the traffic circle at Columbus, keeping an eye open for his fare. There he was—the only figure standing motionless in the rain. Other pedestrians were scuttling across the street in a hurry, dodging the trolleys and automobiles.

Holt pulled in and opened the door. The man came forward. He had a cane, but no

umbrella, and water glistened on his dark overcoat. A shapeless slouch hat shielded his head, and keen dark eyes peered sharply at Holt.

The man was old—rather surprisingly old. His features were obscured by wrinkles and folds of sagging, tallowy skin.

"Dennis Holt?" he asked harshly.

"That's me, buddy. Hop in and dry off."

The old man complied. Holt said, "Where to?"

"Up to Harlem?"

"Why—yes, yes."

Shrugging, Holt turned the taxicab into Central Park. A screwball. And nobody he'd ever seen before. In the rear mirror he stole a glance at his fare. The man was intently examining Holt's photograph and number on the card. Apparently satisfied, he leaned back and took a copy of the *Times* from his pocket.

"Want the light, mister?" Holt asked.

"The light? Yes, thank you." But he did not use it for long. A glance at the paper satisfied him, and the man settled back, switching off the panel lamp, and studying his wrist watch.

"What time is it?" he inquired.

"Seven, about."

"Seven. And this is January 10, 1943."

Holt didn't answer. His fare turned and peered out of the rear window. He kept doing that. After a time, he leaned forward and spoke to Holt again.

"Would you like to earn a thousand dollars?"

"Are you joking?"

"This is no joke," the man said, and Holt realized abruptly that his accent was odd—a soft slurring of consonants, as in Castilian Spanish. "I have the money—your current currency. There is some danger involved, so I will not be overpaying you."

Holt kept his eyes straight ahead. "Yeah?"

"I need a bodyguard, that is all. Some men are trying to abduct or even kill me."

"Count me out," Holt said. "I'll drive you to the police station. That's what you need, mister."

Something fell softly on the front seat. Looking down, Holt felt his back tighten. Driving with one hand, he picked up the bundle of bank notes and thumbed through them. A thousand bucks—one grand.

They smelled musty.

The old man said, "Believe me, Denny, it is your help I need. I can't tell you the story—you'd think me insane—but I'll pay you that amount for your services tonight."

"Including murder?" Holt hazarded. "Where do you get off calling me Denny? I never saw you before in my life."

"I have investigated you—I know a great deal about you. That's why I chose you for this task. And nothing illegal is involved. If you have reason to think differently, you are free to withdraw at any time, keeping the money."

Holt thought that over. It sounded fishy, but enticing. Anyhow, it gave him an out. And a thousand bucks—

"Well, spill it. What am I supposed to do?"

The old man said, "I am trying to evade certain enemies of mine. I need your help for that. You are young and strong."

"Somebody's trying to rub you out?"

"Rub me . . . oh. I don't think it will come to that. Murder is frowned upon, except as a last resort. But they have followed me here; I saw them. I believe I shook them off my trail. No cabs are following us—"

"Wrong," Holt said.

There was a silence. The old man looked out the rear window again.

Holt grinned crookedly. "If you're trying to duck, Central Park isn't the place. I can lose your friends in traffic easier. O.K., mister, I'm taking the job. But I got the privilege of stepping out if I don't like the smell."

"Very well, Denny."

Holt turned into an underpass. "You know me, but I don't know you. What's the angle, checking up on me? You a detective?"

"No. My name's Smith."

"Naturally."

"And you—Denny—are twenty years old, and unavailable for military duty in this war because of cardiac trouble."

Holt grunted. "What about it?"

"I do not want you to drop dead."

"I won't. My heart's O.K. for most things. The medical examiner just didn't think so."

Smith nodded. "I know that. Now Denny—"

"Well?"

"We must be sure we aren't followed."

Holt said slowly, "Suppose I stopped at F.B.I. headquarters. They don't like spies."

"As you like. I can prove to them I am not an enemy agent. My business has nothing to do with this war, Denny. I merely wish to prevent a crime. Unless I can stop it, a house will be burned tonight, and a valuable formula destroyed."

"That's a job for the fire department."

"You and I are the only ones who can perform this task. I can't tell you why. A thousand dollars, remember."

Holt was remembering. A thousand dollars meant a lot to him at the moment. He had never had that much money in his life. It meant a stake; capital on which to build. He hadn't had a real education. Till now, he'd figured he'd continue in a dull, plodding job forever. But with a stake—well, he had ideas. These were boom times. He could go in business for himself; that was the way to make dough. One grand. Yeah. It might mean a future.

He emerged at Seventy-second Street, into the Central Park West, and from the corner of his eye saw another taxi swing toward him. It was trying to pocket his cab. Holt heard his passenger gasp and cry something. He jammed on the brakes, saw the other car go by, and swung the steering wheel hard, pushing his foot down on the accelerator. He made a half circle, fast, on West End, and was headed north.

"Take it easy," he said to Smith.

There had been four men in the other taxicab; he had got only a brief glimpse. They were clean-shaved and wore dark clothes. They might have been holding weapons; Holt couldn't be certain of that. They were swinging around, too, now, having difficulties with the traffic, but intent on pursuit.

At the first convenient street, Holt turned left, crossed Broadway, took the clover-leaf into the Henry Hudson Parkway, and, instead of heading south on the drive, made a complete circle and retraced his route as far as West End. He went south on West End, cutting into Eighth Avenue presently. There was more traffic now. The following cab wasn't visible.

"What now?" he asked Smith.

"I . . . I don't know. We must be sure we're not followed."

"O.K.," Holt said. "They'll be cruising around looking for us. We'd better get off the street. I'll show you." He turned into a parking garage, got a ticket, and hurried

Smith out of the cab. "We kill time now, till it's safe to start again."

"Where—"

"What about a quiet bar? I could stand a drink. It's a lousy night."

Smith seemed to have put himself completely in Holt's hands. They turned into Forty-second Street, with its dimly-lit honky-tonks, burlesque shows, dark theater marques, and penny arcades. Holt shouldered his way through the crowd, dragging Smith with him. They went through swinging doors into a gin mill, but it wasn't especially quiet. A juke box was going full blast in a corner.

An unoccupied booth near the back attracted Holt. Seated there, he signaled the waiter and demanded a rye. Smith, after hesitating, took the same.

"I know this place," Holt said. "There's a back door. If we're traced, we can go out fast."

Smith shivered.

"Forget it," Holt comforted. He exhibited a set of brass knuckles. "I carry these with me, just in case. So relax. Here's our liquor." He downed the rye at a gulp and asked for another. Since Smith made no attempt to pay, Holt did. He could afford it, with a thousand bucks in his pocket.

Now, shielding the bills with his body, he took them out for a closer examination. They looked all right. They weren't counterfeit; the serial numbers were O.K.; and they had the same odd musty smell Holt had noticed before.

"You must have been hoarding these," he hazarded.

Smith said absently, "They've been on exhibit for sixty years—" He caught himself and drank rye.

Holt scowled. These weren't the old-fashioned large-sized bills. Sixty years, nuts! Not but what Smith looked that old; his wrinkled, sexless face might have been that of a decegenarian. Holt wondered what the guy had looked like when he was young. When would that have been? During the Civil War, most likely!

He stowed the money away again, conscious of a glow of pleasure that wasn't due entirely to the liquor. This was the beginning for Denny Holt. With a thousand dollars, he'd buy in somewhere and go to town. No more cabbing, that was certain.

On the postage-stamp floor dancers swayed and jitterbugged. The din was constant, loud conversation from the bar vying with the juke-box music. Holt, with a paper

napkin, idly swabbed a beer stain on the table before him.

"You wouldn't like to tell me what this is all about, would you?" he said finally.

Smith's incredibly old face might have held some expression; it was difficult to tell. "I can't, Denny. You wouldn't believe me. What time is it now?"

"Nearly eight."

"Eastern Standard Time, old reckoning—and January 10th. We must be at our destination before eleven."

"Where's that?"

Smith took out a map, unfolded it, and gave an address in Brooklyn. Holt located it.

"Near the beach. Pretty lonely place, isn't it?"

"I don't know. I've never been there."

"What's going to happen at eleven?"

Smith shook his head, but did not answer directly. He unfolded a paper napkin.

"Do you have a stylo?"

Holt hesitated, and then extended a pack of cigarettes.

"No, a . . . a pencil. Thank you. I want you to study this plan, Denny. It's the ground floor of the house we're going to in Brooklyn. Keaton's laboratory is in the basement."

"Keaton?"

"Yes," Smith said, after a pause. "He's a physicist. He's working on a rather important invention. It's supposed to be a secret."

"O.K. What now?"

Smith sketched hastily. "There should be spacious grounds around the house, which has three stories. Here's the library. You can get into it by these windows, and the safe should be beneath a curtain about—here." The pencil point stabbed down.

Holt's brows drew together. "I'm starting to smell fish."

"Eh?" Smith's hand clenched nervously. "Wait till I've finished. That safe will be unlocked. In it you will find a brown notebook. I want you to get that notebook—"

"—and send it air mail to Hitler," Holt finished, his mouth twisting in a sneer.

"—and turn it over to the War Department," Smith said imperturbably. "Does that satisfy you?"

"Well—that sounds more like it. But why don't you do the job yourself?"

"I can't," Smith said. "Don't ask me why; I simply can't. My hands are tied." The sharp eyes were glistening. "That notebook, Denny, contains a tremendously important secret."

"Military?"

"It isn't written in code; it's easy to read. And apply. That's the beauty of it. Any man could—"

"You said a guy named Keaton owned that place in Brooklyn. What's happened to him?"

"Nothing," Smith said, "yet." He covered up hastily. "The formula mustn't be lost, that's why we've got to get there before eleven."

"If it's that important, why don't we go out there now and get the notebook?"

"The formula won't be complete until a few minutes before eleven. Keaton is working out the final stages now."

"It's screwy," Holt complained. He had another rye. "Is this Keaton a Nazi?"

"No."

"Well, isn't he the one who needs a bodyguard, not you?"

Smith shook his head. "It doesn't work out that way, Denny. Believe me, I know what I'm doing. It's vitally, intensely important that you get this formula."

"Hm-m-m."

"There's a danger. My—enemies—may be waiting for us there. But I'll draw them off and give you a chance to enter the house."

"You said they might kill you."

"They might, but I doubt it. Murder is the last recourse, though euthanasia is always available. But I'm not a candidate for that."

Holt didn't try to understand Smith's viewpoint on euthanasia; he decided it was a place name, and implied taking a powder.

"For a thousand bucks," he said, "I'll risk my skin."

"How long will it take us to get to Brooklyn?"

"Say an hour, in the dimout." Holt got up quickly. "Come on. Your friends are here."

Panic showed in Smith's dark eyes. He seemed to shrink into the capacious overcoat. "What'll we do?"

"The back way. They haven't seen us yet. If we're separated, go to the garage where I left the cab."

"Y-yes. All right."

They pushed through the dancers and into the kitchen, past that into a bare corridor. Opening a door, Smith came out in an alley. A tall figure loomed before him, nebulous in the dark. Smith gave a shrill, frightened squeak.

"Beat it," Holt ordered. He pushed the

old man away. The dark figure made some movement, and Holt struck swiftly at a half-seen jaw. His fist didn't connect. His opponent had shifted rapidly.

Smith was scuttling off, already lost in shadows. The sound of his racing footsteps died.

Holt, his heart pounding reasonably, took a step forward. "Get out of my way," he said, so deep in his throat that the words came out as a purring snarl.

"Sorry," his antagonist said. "You mustn't go to Brooklyn tonight."

"Why not?" Holt was listening for sounds that would mean more of the enemy. But as yet he heard nothing, only distant honking of automobile horns and the low mingled tumult from Times Square, a half block away.

"I'm afraid you wouldn't believe me if I told you."

There was the same accent: the same Castilian slurring of consonants that Holt had noticed when Smith spoke. He strained to make out the other man's face. But it was too dark.

Surreptitiously Holt slipped his hand into his pocket and felt the comforting coldness of the brass knuckles. He said, "If you pull a gun on me—"

"We do not use guns. Listen, Dennis Holt. Keaton's formula must be destroyed with him."

"Why, you—" Holt struck without warning. This time he didn't miss. He felt the brass knuckles hit solidly and then slide, slippery on bloody, torn flesh. The half-seen figure went down, a shout muffled in his throat. Holt looked around, saw no one, and went at a loping run along the alley. Good enough, so far.

Five minutes later he was at the parking garage. Smith was waiting for him, a withered crow in a huge overcoat. The old man's fingers were tapping nervously on the cane.

"Come on," Holt said. "We'd better move fast now."

"Did you—"

"I knocked him cold. He didn't have a gun—or else he didn't want to use it. Lucky for me."

Smith grimaced. Holt recovered his taxi and maneuvered down the ramp, handling the car gingerly and keeping on the alert. A cab was plenty easy to spot. The dimout helped.

He crept south and east to the Bowery, but, at Essex Street, by the subway station,

the pursuers caught up. Holt swung into a side street. His left elbow, resting on the window frame went numb and icy cold.

He steered with his left hand till the feeling wore off. The Williamsburg Bridge took him into Kings, and he dodged and alternately speeded and back-tracked till he'd lost the shadows again. That took time. And there was still a long distance to go, by this circuitous route.

Holt, turning right, worked his way south to Prospect Park, and then east, toward the lonely beach section between Brighton Beach and Canarsie. Smith, huddled in back, had made no sound.

"So far, so good," Holt said over his shoulder. "My arm's in shape again, anyhow."

"What happened to it?"

"Must have hit my funny bone."

"No," Smith said, "that was a paralyizer. Like this." He exhibited the cane.

Holt didn't get it. He kept driving till they were nearly at their destination. He pulled up around the corner from a liquor store.

"I'm getting a bottle," he said. "It's too cold and rainy without a shot of something to pep me up."

"We haven't time."

"Sure, we have."

Smith bit his lip, but made no further objection. Holt bought a pint of rye and, back in the cab, took a swig, after offering his fare a drink and getting a shake of the head for answer.

The rye definitely helped. The night was intensely cold and miserable; squalls of rain swept across the street, sluicing down the windshield. The worn wipers didn't help much. The wind screamed like a banshee.

"We're close enough," Smith suggested. "Better stop here. Find a place to hide the taxicab."

"Where? These are all private houses."

"A driveway . . . eh?"

"O.K.," Holt said, and found one shielded by overhanging trees and rank bushes. He turned off lights and motor and got out, hunching his chin down and turning up the collar of his slicker. The rain instantly drenched him. It came down with a steady, torrential pour, pattering noisily, staccato in the puddles. Underfoot was sandy, slippery mud.

"Wait a sec," Holt said, and returned to the cab for his flashlight. "All set. Now what?"

"Keaton's house." Smith was shivering

convulsively, "It isn't eleven yet. We'll have to wait."

They waited, concealed in the bushes on Keaton's grounds. The house was a looming shadow against the fluctuating curtain of drenched darkness. A lighted window on the ground floor, showed part of what seemed to be a library. The sound of breakers, throbbing heavily, came from their left.

Water trickled down inside Holt's collar. He cursed quietly. He was earning his thousand bucks, all right. But Smith was going through the same discomfort, and not complaining about it.

"Isn't it—"

"Sh-h!" Smith warned. "The—others—may be here."

Obediently, Holt lowered his voice. "Then they'll be drowned, too. Are they after the notebook? Why don't they go in and get it?"

Smith bit his nails. "They want it destroyed."

"That's what the guy in the alley said, come to think of it," Holt nodded, startled. "Who are they, anyhow?"

"Never mind. They don't belong here. Do you remember what I told you, Denny?"

"About getting the notebook? What'll I do if the safe isn't open?"

"It will be," Smith said confidently. "Soon, now. Keaton is in his cellar laboratory, finishing his experiment."

Through the lighted window a shadow flickered. Holt leaned forward; he felt Smith go tense as wire beside him. A tiny gasp rippled from the old man's throat.

A man had entered the library. He went to the wall, swung aside a curtain, and stood there, his back to Holt. Presently he stepped back, opening the door of a safe.

"Ready," Smith said. "This is it! He's writing down the final step of the formula. The explosion will come in a moment now. When it does, Denny, give me a minute to get away and cause a disturbance, if the others are here."

"I don't think they are."

Smith shook his head. "Do as I say. Run for the house and get the notebook."

"Then what?"

"Then get out of here as fast as you can. Don't let them catch you, whatever you do."

"What about you?"

Smith's eyes blazed with intense, violent command, shining out of the windy dark. "Forget me, Denny! I'll be safe."

"You hired me as a bodyguard."

"I'm discharging you, then. This is vitally important, more important than my life. That notebook must be in your hands—"

"For the War Department?"

"For . . . oh, yes. You'll do that, now, Denny?"

Holt hesitated. "If it's that important—"

"It is. It is!"

"O.K., then."

The man in the house was at a desk, writing. Suddenly the window blew out. The sound of the blast was muffled, as though its source was underground, but Holt felt the ground shake beneath him. He saw Keaton spring up, take a half step away, and return, snatching up the notebook. The physicist ran to the wall safe, threw the book into it, swung the door shut, and paused there briefly, his back to Holt. Then he darted out of Holt's range of vision and was gone.

Smith said, his voice coming out in excited spurts, "He didn't have time to lock it. Wait till you hear me, Denny, and then *get that notebook!*"

Holt said "O.K.," but Smith was already gone, running through the bushes. A yell from the house heralded red flames sweeping out a distant ground-floor window. Something fell crashing—masonry, Holt thought.

He heard Smith's voice. He could not see the man in the rain, but there was the noise of a scuffle. Briefly Holt hesitated. Blue pencils of light streaked through the rain, wan and vague in the distance.

He ought to help Smith—

He'd promised, though, and there was the notebook. The pursuers had wanted it destroyed. And now, quite obviously, the house was going up in flames. Of Keaton there was no trace.

He ran for the light window. There was plenty of time to get the notebook before the fire became dangerous.

From the corner of his eye he saw a dark figure, cutting in toward him. Holt slipped on his brass knuckles. If the guy had a gun, it would be unfortunate; otherwise, fair enough.

The man—the same one Holt had encountered in the Forty-second Street alley—raised a cane and aimed it. A wan blue pencil of light streaked out. Holt felt his legs go dead and crashed down heavily.

The other man kept running. Holt, struggling to his feet, threw himself desperately forward. No use.

The flames were brightening the night

now. The tall, dark figure loomed for an instant against the library window; then the man had clambered over the sill. Holt, his legs stiff, managed to keep his balance and lurch forward. It was agony; like pins-and-needles a thousand times intensified.

He made it to the window, and, clinging to the sill, stared into the room. His opponent was busy at the safe. Holt swung himself through the window and hobbled toward the man.

"His brass-knuckled fist was ready.

The unknown sprang lightly away, swinging his cane. Dried blood stained his chin.

"I've locked the safe," he said. "Better get out of here before the fire catches you, Denny."

Holt mouthed a curse. He tried to reach the man, but could not. Before he had covered more than two halting steps, the tall figure was gone, springing lightly out through the window and racing away into the rain.

Holt turned to the safe. He could hear the crackling of flames. Smoke was pouring through a doorway on his left.

He tested the safe; it was locked. He didn't know the combination—so he couldn't open it.

But Holt tried. He searched the desk, hoping Keaton might have scribbled the key on a paper somewhere. He fought his way to the laboratory steps and stood looking down into the inferno of the cellar, where Keaton's burning, motionless body lay. Yes, Holt tried. And he failed.

Finally the heat drove him from the house. Fire trucks were screaming closer. There was no sign of Smith or anyone else.

Holt stayed, amid the crowds, to search, but Smith and his trackers had disappeared, as though they had vanished into thin air.

"We caught him, Administrator," said the tall man with the dried blood on his chin. "I came here directly on our return to inform you."

The Administrator blew out his breath in a sigh of deep relief.

"Any trouble, Jorus?"

"Not to speak of."

"Well, bring him in," the Administrator said. "I suppose we'd better get this over with."

Smith entered the office. His heavy overcoat looked incongruous against the celoflex garments of the others.

He kept his eyes cast down.

The Administrator picked up a memo-roll and read: "Sol 21st, in the year of our

Lord 2016, subject, interference with probability factors. The accused has been detected in the act of attempting to tamper with the current probability-present by altering the past, thus creating a variable alternative present. Use of time machines is forbidden except by authorized officials. Accused will answer."

Smith mumbled, "I wasn't trying to change things, Administrator—"

Jorus looked up and said, "Objection. Certain key time-place periods are forbidden. Brooklyn, especially the area about Keaton's house, in the time near 11:00 p.m., January 10, 1943, is absolutely forbidden to time travelers. The prisoner knows why."

"I knew nothing about it, Ser Jorus. You must believe me."

Jorus went on relentlessly, "Administrator, here are the facts. The accused, having stolen a time traveler, set the controls manually for a forbidden space time sector. Such sectors are restricted, as you know, because they are keys to the future; interference with such key spots will automatically alter the future and create a different line of probability. Keaton, in 1943, in his cellar laboratory, succeeded in working out the formula for what we know now as M-Power. He hurried upstairs, opened his safe, and noted down the formula in his book, in such a form that it could very easily have been deciphered and applied even by a layman. At the time, there was an explosion in Keaton's laboratory and he replaced the notebook in the safe and went downstairs, neglecting, however, to relock the safe. Keaton was killed; he had not known the necessity of keeping M-Power away from radium, and the atomic synthesis caused the explosion. The subsequent fire destroyed Keaton's notebook, even though it had been within the safe. It was charred into illegibility, nor was its value suspected. Not until the first year of the twenty-first century was M-Power rediscovered."

Smith said, "I didn't know all that, Ser Jorus."

"You are lying. Our organization does not make mistakes. You found a key spot in the past and decided to change it, thus altering our present. Had you succeeded, Dennis Holt of 1943 would have taken Keaton's notebook out of the burning house and read it. His curiosity would have made him open the notebook. He would have found the key to M-Power. And, because of the very nature of M-Power, Dennis Holt would have become the most powerful man in his world

time. According to the variant probability line you were aiming at, Dennis Holt, had he got that notebook, would have been dictator of the world now. This world, as we know it, would not exist, though its equivalent would—a brutal, ruthless civilization ruled by an autocratic Dennis Holt, the sole possessor of M-Power. In striving for that end, the prisoner has committed a serious crime."

Smith lifted his head. "I demand euthanasia," he said. "If you want to blame me for trying to get out of this damned routine life of mine, very well. I never had a chance, that's all."

The Administrator raised his eyebrows. "Your record shows you have had many chances. You are incapable of succeeding through your own abilities; you are in the only job you can do well. But your crime is, as Jorus says, serious. You have tried to create a new probability-present, destroying this one, by tampering with a key-spot in the past. And, had you succeeded, Dennis Holt would now be dictator of a race of slaves. Euthanasia is no longer your privilege; your crime is too serious. You must continue to live, at your appointed task, until the day of your natural death."

Smith choked. "It was *his* fault—if he'd got that notebook in time—"

Jorus looked quizzical. "*His*? Dennis Holt, at the age of twenty, in 1943 . . . his fault? No, it is yours, I think—for trying to change your past and your present."

The Administrator said: "Sentence has been passed. It is ended."

And Dennis Holt, at the age of ninety-three, in the year of our Lord 2016, turned obediently and went slowly back to his job, the same one he would fill now until he died.

And Dennis Holt, at the age of twenty, in the year of our Lord 1943, drove his taxi home from Brooklyn, wondering what it had been all about. The veils of rain swept slanting across the windshield. Denny took another drink out of the bottle and felt the urge steal comfortingly through his body.

What had it all been about?

Banknotes rustled crisply in his pocket. Denny grinned. A thousand smackeroos! His stake. His capital. With that, now, he could do plenty—and he would, too. All a guy needed was a little ready money, and he could go places.

"You bet!" Dennis Holt said emphatically. "I'm not going to hold down the same dull job all my life. Not with a thousand bucks—not me!"

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